

**Friends of the Upper Hunter Inc.  
160 Turanville Road,  
SCONE NSW 2337  
16 April 2019**

**Commissioners Lipman, Cochrane and Carter  
The Independent Planning Commission  
Level 3, 201 Elizabeth Street  
Sydney NSW 2000**

Dear Commissioners,

Thank you again for the opportunity to present to you at the recent public meeting on the Dartbrook Underground Mine Modification 7.

Further to our spoken submission, Friends of the Upper Hunter is writing to provide additional detail that we could not cover within the allocated time at the public meeting.

We respectfully ask that you consider this submission, the supporting *Friends of the Upper Hunter - Dartbrook Mine Community Consultation Report - April 2019*, the expert opinion of Associate Professor Dr Sara Bice - one of the world's leaders in Social Impact Assessment and an authority on social license in the resource sector - and the legal advice of the NSW Environmental Defenders Office in making your determination.

We believe this evidence, together with the other evidence you received on 9 April, demonstrates that this proposal is not in the public interest, that the site is not suitable for this development and that the likely environmental, social and economic impacts are unacceptable. We believe it would therefore be inconsistent with the EP&A Act 1979 section 4.15 b, c and d to approve this proposal.

We therefore reiterate our request on behalf of our members and the wider Upper Hunter community that you reject this proposal.

If you have any questions or wish to see the farmland, towns and businesses that will be adversely affected by this proposal please do feel free to contact us. We will be only too happy to assist.

Sincerely

Kirsty O'Connell

Secretary  
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Submission to the Independent Planning Commission  
Dartbrook Underground Mine Modification 7  
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## **INTRODUCTION**

Friends of the Upper Hunter Inc. (FOTUH) is a group of farmers, landowners, business people, health experts, parents and grandparents. We don't see our group as anti-mining, but rather pro-communities, pro-local business and pro-farming. We acknowledge the economic benefits that mining delivers but believe we have passed the tipping point in terms of the number of mines this area can safely sustain. There has to be balance.

Our group formed in response to significant community concerns about the proposed Dartbrook Underground Mine and statements made by Australian Pacific Coal about their plans for an open cut mine. These concerns have not been addressed by the proponent or by the Department in its Assessment Report.

Since Friends of the Upper Hunter formed in March 2019, we've consulted widely with the local community, something which regrettably this proponent has failed to do in the two years since they purchased this mothballed asset.

One of the things we've heard as part of our consultation is that many in this community feel extremely cynical about the planning process for mining. We've heard that this cynicism took root as far back as the nineties when local identity Bob Oatley beat Bengalla Mine in the Land and Environment Report, only to have his wins overturned with the stroke of a pen. That act by the NSW Government is still causing some local people to feel that it's pointless to oppose mining applications. Others have told us they are reluctant to speak out because they run businesses, work in a mine or are concerned about repercussions for family members working in mining. Local mine workers tell us that they often have to stay quiet about their concerns on matters like air pollution and health.

This is relevant to the Independent Planning Commission in its determination of this matter as it may give a skewed perspective of the real level of concern that exists in this community and which this proponent and the Department have not seen fit to properly research.

Despite these disincentives, many hundreds of people have still taken the time to talk to us because they want a healthy, sustainable future.

**The comments we make are informed by this consultation with the community, which is described fully in the attached *Friends of the Upper Hunter - Dartbrook Mine Community Consultation Report - April 2019*.**

We, and the community members we consulted, believe the Upper Hunter has an incredibly important role to play as our wider region transitions away from coal. Our agricultural and tourism based economy can be further strengthened and diversified in a way that's sympathetic with our unspoilt local landscape - a landscape that bears striking similarities to the beautiful Gloucester basin.

If we invest now in our non-mining industries, we can be ready to help provide secure, satisfying jobs for our local workers exiting the mining industry over the coming decades. But we can only provide that safety net during transition and beyond IF we have protection for our communities, our environment, our high quality agricultural land and water and our other industries.

**That's where we need your help. We respectfully put to you that there has to be a point where we draw the line in terms of how many mines are permitted to operate in this small region at the same time.**

**If we're not going to draw the line around the Biophysical Strategic agricultural land that this mothballed asset sits on, or around the Hunter River, if we're not going to draw it around the Critical Equine Cluster, if we're not going to listen to a Council that has a track record of opposing mining for over 30 years and if we're not going to listen to community members almost universally concerned about their air, water and health... then when? Do we mine the entire valley?**

**There has to be a limit and we don't believe that the best and highest purpose for a scenic, fertile river valley situated just 3 hours from Sydney is to turn it into a quarry.**

## **DO WE NEED THIS MINE?**

We put to you that in the 28 years since this mine was approved and the 13 years since this mine was mothballed, quite a lot has changed.

Notably, the Mount Arthur, Bengalla, Mangoola and Mount Pleasant Mines have been approved and have entered full production with a combined permitted production of almost 50 million tonnes per annum.

One of these operators, Glencore, has publicly announced that it will cap its coal production, raising the likelihood of under-production.

In this context, it is difficult to see how the production of no more than 1.5 million tonnes of coal per annum from a mothballed mine with well documented issues with gas, flooding and spontaneous combustion will deliver any significant economic benefit to this community, the State of NSW or Australia which couldn't be more efficiently achieved by these existing mines increasing to their maximum permitted production, or indeed, by them increasing the proportion of local hires as opposed to DIDO workers.

## IS THIS APPLICATION CONSISTENT WITH PLANNING INSTRUMENTS?

We believe the reopening of the Dartbrook Mine would be entirely inconsistent with the vision and priorities for this region which have been expressed in various community, Council and State Government plans.

It is inconsistent with SEPP (Mining, Petroleum Production and Extractive Industries) 2007 as it is situated on, and surrounded by mapped Biophysical Strategic Agricultural Land.

It is inconsistent with the Upper Hunter Local Environment Plan as the site is predominantly zoned RU4 Primary Production Small Lots under the Upper Hunter Local Environmental Plan 2013.

The objectives of the RU4 zone are as follows:

- *To enable sustainable primary industry and other compatible land uses.*
- *To encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

It is considered that the proposed modification is inconsistent with the zone objectives as it will enable the continued operation of an unsustainable primary industry that is incompatible with surrounding land uses and will result in ongoing land use conflict. Furthermore, whilst the modified proposal will provide employment opportunities, these opportunities will be short-lived and are unsustainable in the long-term. A more sustainable primary industry would provide long-term employment for the local population.

Significantly, this proposal is inconsistent with the Department of Planning and Environment's own Hunter Regional Plan 2036. We wholeheartedly support the priorities for the Upper Hunter which the Department set in its Hunter Regional Plan 2036, which are summarised below:

- Protect the Equine Critical Industry Cluster and allow for expansion of the industry.
- Protect Biophysical Strategic Agricultural Lands and other important agricultural lands.
- Support the tourism economy by investigating ways to leverage agriculture and equine industry strengths to attract food-based and equine-related visitors.
- Support the diversification of the energy sector and ongoing extractive industries, noting that the Upper Hunter Local Government Area is part of the Upper Hunter Green Energy Precinct.
- Encourage the establishment of employment-generating rural industries, value-adding industries and intensive agriculture in appropriate locations.

We are baffled that the Department of Planning and Environment would recommend the re-start of a risky underground mine in the Upper Hunter,



contrary to these priorities and against the wishes of the local people and the local Council.

## **ASSESSING THE RELATIVE LEVEL OF IMPACT**

With respect to the Department's assessment, we would argue that it is disingenuous to compare the impacts of what's proposed against what is approved. Anglo American gave their best effort to mine to their approval and failed. This proponent has showed no appetite to mine to their approval. We need to be practical and acknowledge that the real impact is what we're experiencing in Care and Maintenance - the impact we've been experiencing for 13 years.

## **THE DEPARTMENT'S RATIONALE FOR APPROVAL**

The Department recommended the approval of this proposal largely on economic grounds, yet the independent expert advice of Associate Professor Sara Bice confirmed that the belated SIA completed by the proponent and used by the Department in its assessment report cannot be considered as having properly assessed the social impacts and therefore any economic assessment of this proposal will also be faulty.

Let's take a hard look at the two chief reasons the Department gave for recommending approval - jobs and social benefits. At best, these benefits are uncertain and based on our expert advice, we would contend are based on faulty assumptions.

Let's unpack our concerns.

Firstly, what is a local job? For the people who will experience the majority of the disbenefits of this mine, local means the Muswellbrook and Upper Hunter Shires. This proponent confirmed at the Dartbrook Community Forum on Sunday April 7 (where he made an impromptu appearance) that his definition of local is Narrabri to Newcastle. This is not local and we dispute the Departments assessment that this represents a social benefit to our community.

The proponent also says they are 'targeting' to hire 80% of their staff locally, but we contend that it is unlikely that the highly experienced staff required for this challenging underground mine will be available from the local community. We certainly dispute the inference from the Department that they will be sitting around unemployed and that this will therefore have any impact on the very low 5% unemployment for the Upper Hunter LGA identified in the last census.

The more plausible scenario is that they will need to bring in more DIDO workers. We certainly see the stream of traffic coming into and out of the area on shift changes and particularly on Monday's and Friday's. Even if Australian Pacific Coal successfully poaches workers from other mines, it will simply mean they have to replace those people with DIDO workers. Either way it's the same result.

Even if these jobs do exist ... what guarantee do we have that this inexperienced proponent can manage the safety issues that beset a far more experienced miner? They have represented that their development partner will bring this expertise but

that agreement is not finalised and represents little more than an expression of goodwill at this point.

We note the three deaths at this site previously. We note that this proponent hasn't yet prepared a safety plan. This community indicated clearly in our consultation that they don't want their family members, their friends and their neighbours put at risk in this mine and has little confidence in this proponent or their prospective development partner in this matter.

Second, we dispute the Department's assessment that the VPAs offered to local Councils represent a significant social benefit. They are in fact less than 0.25% of the total budget for either Council. As one community member who attended our forum put it: '0.25% is an insult. What is our environment, our community and our health worth? More than that!'

We note and support the continued objection of the Upper Hunter Shire Council in spite of the VPA with the Dartbrook owners.

## **ACCURACY OF INFORMATION IN THE PROPOSAL AND RIGOUR OF THE DEPARTMENT'S ASSESSMENT**

From the first sentence of this Dartbrook Underground Modification Proposal so neatly copied and pasted into the Department's Assessment Report, members of this community were given reason to doubt the information it contained.

For the record, most of the parts of this mine that people actually see are far closer to Aberdeen than 4.5km.

In fact, one of the more visually intrusive, noisy and dusty elements of this entire mine is the CHPP which sits less than 1.3km from Aberdeen.

We're not sure how such a simple error could be made? Is the proponent unaware of where the town is or are they being deliberately misleading? We can only speculate, but the fact is that the Department has let this inaccuracy pass and for a local person counting on their oversight to protect our community - it makes you wonder what else has been overlooked.

## **THE UPPER HUNTER CAN'T SAFELY SUPPORT ANOTHER COAL MINE AT THIS TIME**

The residents and friends of the upper Hunter don't believe this region can safely support another mine at this time without adverse impacts on the community, environment, other important local industries.

### **Air quality**

There is clear evidence that our air shed is overburdened and our consultation revealed that this is one of the greatest areas of concern for the local community.

You have been provided with a copy of a video shot at the Mount Arthur, Bengalla and Mount Pleasant Mine Sites at around 7pm on 27 January.

Local air quality monitors at Muswellbrook, Muswellbrook North and Aberdeen had the average for PM10 at that time were respectively 195.5, 196.8 and 212.1 micrograms per cubic metre. We believe that's roughly four times the NEPA standard. This was only the second worst day in January.

We might add that we reported this to the EPA - the fact that trucks were still operating, that no water suppression was evident - and we did not receive any follow up and are unaware of any penalties imposed on any of these three mines on that day. We did ask, but as has happened several times previously, received no reply.

Regardless of which individual mine or mines creates the dust, regardless of whether it is made worse through drought or other climatic events, the fact is that we are already breaching NSW and National standards on a regular basis.

We may be able to reduce droughts and other extreme weather events by taking action on climate change. We can definitely prevent the discretionary air pollution that this proposal would create - not just the dust, diesel fumes and methane emissions from the mine, but also the emissions and dust created in transporting this coal to the Port (an impact not considered by this proponent or the Department).

We submit that given the existing high level of pollution in this airshed it is in the public interest to deny the Dartbrook application.

### **Health and Wellbeing**

Related to this, participants in our consultation told us that situation with air quality, the visible pollution in the area and their lack of faith in the EPA to regulate these impacts, is affecting their perception of wellbeing and is impacting their decisions about whether they and their families have a future in this region.

We submit that until the health and wellbeing impacts of existing mining are thoroughly studied and understood and unless it can be demonstrated that the impacts are negligible, that it is in the public interest to hit the pause button and not approve this application.

### **Water Security**

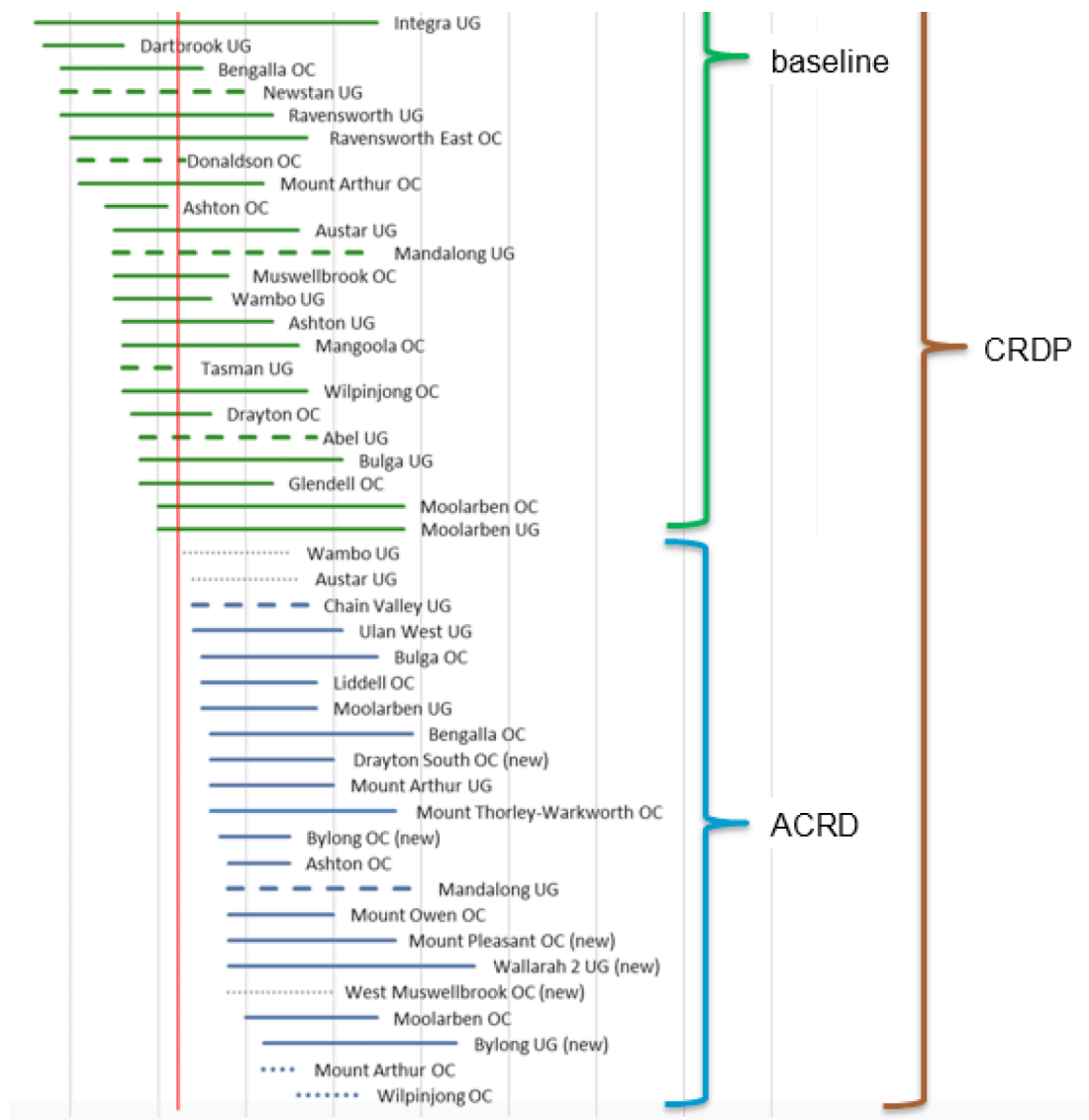
This community is deeply concerned about water security. Commissioner Cochrane, in your meeting with the Department you raised the Greater Hunter Water Strategy - it's an important document and notes that during droughts such as the 2006-07 Millennium Drought our agricultural sector comes under huge pressure. This is exacerbated by the over-allocation of High Security licenses for mining.

The feedback we have received is that anything that adds to this pressure is unacceptable to the community and increases uncertainty for other key industries such as agriculture and tourism.

We further submit that there is compelling evidence from the **Commonwealth's Bioregional Assessment team** that the Hunter Bioregion has already experienced significant impacts to groundwater as a result of mining. It predicts that changes in water availability in the Hunter Regulated River at Greta are very likely (greater than 95% chance) to exceed 5 GL per year, but very unlikely to exceed 12 GL per year, over the period 2013 to 2042.

**It is noteworthy that the Dartbrook Underground Mine was not operational at the time and therefore not considered in this assessment. Any impact created by the re-start of mining will be in addition to that forecast 5-12 GL shortfall.**

The timeline for the assessment is illustrated in the diagram below and a full copy is included at Appendix 1 of this submission.



**Source: Assessing impacts of coal resource development on water resources in the Hunter subregion: key findings Product 5: Outcome synthesis for the Hunter subregion from the Northern Sydney Basin Bioregional Assessment 2018. Figure 3 Timeline for coal resource developments in the coal resource development pathway**

In this context, we have a proponent with around 2000 ML of WALs. It is unclear (and the proponent has failed to respond to this question) as to whether the WALs are high security or general security.

For this proponent to re-enter the water market as it were, after 13 years in care and maintenance, will have impacts for other water users including other mines – particularly if it proves that the WALs are high security, and therefore worth three times the general security equivalent or 6000ML.

This starts to become particularly interesting if you consider that general security users will be restricted ahead of high security and those agricultural users have general security licenses.

To put this into perspective, the entire Pokolbin private irrigation district has an allocation of 5000ML of GENERAL security water. This is sufficient to support an iconic wine industry and a \$700M tourism industry. Therefore even 2000ML of general security could not be considered an insignificant volume of water.

If and when we have another drought, the Pokolbin water users will be among the general security irrigators whose allocations will be cut while high security users are protected.

Further, there is consistent anecdotal evidence that local wells went dry or experienced significant drops when Dartbrook was last operating. Irrigators tell us that if this happens again it would cripple their businesses.

In addition, there are concerns regarding the quality of water discharged to the Hunter River from this mine

There is simply too much uncertainty regarding these water issues and too much at stake to approve this proposal.

### **Increasing pressure and uncertainty in the agricultural sector**

In addition to the competition for water and the impacts on water quality, there are significant pressures on agricultural industries as a result of the proliferation of mining – additional approvals will increase the uncertainty for this sector.

Since the 1990s, in the Muswellbrook and Upper Hunter Shires, we have seen quality agricultural land, including extensive riverflat purchased by mining companies. A portion of this is leased back or operated for agriculture, but the result is nonetheless a significant tightening of the supply of quality agricultural land (particularly land that isn't blighted by an exploration license or mining lease). While this proposal does not imply significant additional.

The high wages offered by the mining industry have understandably lured staff away from the agricultural sector, as they have from many local businesses and

trades. This increased competition for staff and upward pressure on wages has increased the pressure on farming families, many now simply not being able to find quality staff and our aging farming fraternity working longer without respite.

Farmers already deal with the uncertainties of the weather on a day to day basis. The science seems pretty clear that those uncertainties are increasing as a result of climate change. This application, and others like it, fail to take into account the climate change implications that this mine will create – these implications will in turn increase the unpredictable weather that is making our job so difficult.

### **Other impacts**

The proposal would create other obvious disbenefits, which are detailed at length in the attached consultation report. These include:

- Noise (from trains arriving, shunting and loading 24/7 within 1.3km of town, 192 one-way B-Double Truck movements also within 2km of the southern side of town)
- Visual Amenity
- Odour from fugitive methane emissions and anticipated spontaneous combustion
- Impact on local property values
- Impact on surrounding landowners who will be displaced.
- Impact on community connectedness.

These disbenefits and the associated social impacts have not been properly accounted for in the economic assessment of this project OR in the Department's Assessment Report.

## **CONCLUSION**

On balance, we do not believe that the benefits of this mine are in any way equivalent to the significant disbenefits of this proposal, or that this proposal is financially viable in its own right.

Furthermore, the community fears that the re-start of underground mining at this site will pave the way for this proponent to achieve its stated opencut aspirations... something which is totally unacceptable to this community.

We do not believe this company should be given permission to restart a mine which is not economic in its own right, which will create significant negative consequences for the local community, environment and other industries and which may create an ongoing duty of care to any employees – thereby holding the NSW Government and the community to ransom in order to ensure their ongoing employment.

Please reject this proposal.



# Community Consultation Report

## Dartbrook Underground Modification 7



**Prepared by Friends of the Upper Hunter Inc.  
April 2019**



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# 1. Executive summary

In the absence of any significant community engagement by Dartbrook Mine proponents, Australian Pacific Coal (AQCLTD), in the matter of the Dartbrook Underground Mine Modification 7, Friends of the Upper Hunter Inc (FOTUH) undertook to engage the communities of the Upper Hunter ahead of the Independent Planning Commission's Public Meeting on Tuesday 9 April.

Through a volunteer-led communication and engagement campaign conducted from early March 2019, FOTUH engaged directly with approximately 405 community members throughout the region to inform them of the proposal to re-start underground operations and elicit their feedback.

Despite the fact that the proposal was lodged in March 2018 and that the Department of Planning and Environment considers that the notification process met the requirements of the EP&A Act, community members demonstrated an extremely low level (<10%) of unprompted awareness about the proposal during initial informal one-on-one interviews conducted by group members. Feedback also indicated that <10% of the 325 individuals consulted had not seen the single week of advertising taken by the Department and were unaware of the proposal.

During the 325 informal one-on-one interviews community members demonstrated significant concerns on the following topics (listed in order of the frequency of mention):

- Cumulative impacts
- Air quality and human health
- Water security and quality
- Impact on prime agricultural land
- Quality of life impacts (related to noise, dust, odour, visual amenity)
- Safety concerns for workers
- Concerns regarding targets for local hires
- Impact on surrounding industries - particularly farming and tourism
- Adverse impact on property values
- Impact of residents who may be displaced
- Community dislocation
- Climate change

At the request of community members, FOTUH then undertook a publicly advertised consultation exercise (The Dartbrook Mine Community Forum). Despite having just 5 days and a limited budget to promote the event, it was attended by 101 participants (approximately 20 of whom had already participated in a one-on-one interview with a member of FOTUH). A group of approximately 6 participants who were supportive of the mine (including the proponent, a staff member, and a contractor of the mine) also attended the session.

Sentiment and comments at the Forum echoed that received during the one-on-one interviews, with the exception that several of the supporters highlighted the

economic importance of mining and expressed the hope that the proposal goes ahead to provide jobs to the community.

A total of 547 questions, comments and concerns were received during the Forum across the following themes, listed in order of frequency of mention:

- Community impacts
- Air quality
- Water
- Health and wellbeing
- Environment (other than water and air)
- Farming
- Planning for the future (transition)
- Economic impact
- Safety
- Climate change and intergenerational equity
- Rehabilitation
- Capacity and experience of the proponent

Greater detail and specific comments are included in the attached 'FOTUH Community Forum Feedback' Report at Appendix 1.

Other communication and engagement activities included:

- FOTUH website [www.nodartbrook.com](http://www.nodartbrook.com) (1000 users and >1300 sessions in 3 weeks)
- FOTUH Facebook page (approximately 3470 likes, mentions, comments, shares and recommendations with only one week of regular posts)
- Direct mail to all Aberdeen and Scone residents (>5000)
- Advertising in the Hunter Valley News and Scone Advocate (March 27,28, April 3 and 4)
- Editorial in the Hunter Valley News, Scone Advocate, Singleton Argus, Town and Country Magazine, The Newcastle Herald, The Aberdeen Whisper, ABC Upper Hunter, Radio 2NUR, Radio 2NM.

Across the approximately 405 residents, landowners, regular visitors, business people and farmers engaged directly by FOTUH, fewer than 10, including employees and contractors of the mine, expressed support for the proposal.

In broadening to social media (an audience of approximately 23,000 people) less than 14 expressed support for the proposal.

**In summary, the consultation revealed strong community opposition to this proposal and concern regarding its immediate impacts, its contribution to cumulative impacts and its strategic relationship to the company's stated plan for a future open cut.**

**In total, of approximately 23,500 people who were reached through the communication and engagement campaign, fewer than 24 expressed support for the proposal and primarily on the basis of employment/business opportunities with the proposal.**

## 2. Background

The Dartbrook Underground Mine has been mothballed since 2006 after longstanding and well publicised issues with gas, flooding and spontaneous combustion and three deaths at the site.

New owners, Australian Pacific Coal, took possession of the mine in 2017.

In the intervening period, they have:

- prepared and lodged the Dartbrook Underground Modification 7 application under the now defunct s75w. (February 2018)
- prepared and released a Prefeasibility for an Open Cut Mine at the site (March 2018)
- advised investors of the strong investment prospects of the combined underground and open cut mines (AGM Presentation November 2018)
- Issued nine community newsletters (audience unknown, available on aqcltd website) including four issued prior to the s75w modification application being submitted
- Conducted seven meetings of the Community Consultative Committee including three prior to lodging the section 75w modification.

To our knowledge, Australian Pacific Coal has not conducted a single information session, public meeting or workshop regarding either their underground modification or their open cut plans.

When CEO John Robinson Jnr made an impromptu appearance at FOTUH's Dartbrook Community Forum and was asked why there had been no public opportunities for the community to be briefed on the project, he said 'it (the need for consultation) just got away from us.'

### Community newsletters

The collection of community newsletters is significant for the information it fails to provide and for the disputed information it contains.

In its [first newsletter](#), dated July 2017, the cover story dubbed 'Our Commitment' says:

*'Our first commitment is to meet all of the existing obligations attached to the asset and to meet on a one on one basis with as many of our neighbours and other stakeholders as we can, to introduce ourselves.'*

Despite this, as of April 2019 a number of immediate neighbours and other near neighbours say they have had no personal contact from the company. (As noted later in this report.)

In its [second newsletter](#), dated September 2017, the company said:

*Australian Pacific Coal is continuing preparation of an updated MOP for Dartbrook, a requirement of the Mining Lease and Development Consent conditions. The objective of this updated MOP is to document the long-term care and maintenance, environmental compliance and mine closure principles and outcomes whilst outlining proposed rehabilitation activities during the three-year MOP period. As Dartbrook is currently in a care and maintenance phase, the scheduled rehabilitation activities are mainly limited to inspections and maintenance. Australian Pacific Coal is consulting with the Department of Resources and Geoscience (DRG) and the Dartbrook Community Consultative Committee in relation to the MOP including discussion on post mining land use, rehabilitation objectives and completion criteria. The MOP is due for submission in late 2017. Once approved by the DRG, the MOP will be made available on the company website.”*

When the CEO, John Robinson Jnr, attended FOTUH's Dartbrook Community Forum, he stated that the company had no plan for rehabilitation because 'we aren't going to close it'. He further stated that the company had not undertaken any assessment of the likely budget required for closure and rehabilitation but then changed position to say that the bond with the NSW Government would be sufficient to cover the cost. When asked how the mine could be closed and rehabilitated for less than \$10M he could not answer.

In its [fourth newsletter](#) dated December 2017 (the final newsletter prior to lodging their s75w modification) there was no mention of immediate plans to lodge their modification application. The only reference to further mining was in an article dubbed 'Background Environmental Studies', in which they said:

*“The purpose of all of these studies is to provide a good understanding of the existing environment so that as our plans come forward for further mining at Dartbrook we can best understand the potential for any environmental impacts and how to best mitigate and manage these.”*

In its [fifth newsletter](#) dated February 2018, the company announces that it has lodged its modification application. Interestingly, on examination of the properties of this PDF document, it appears that this newsletter was in fact created on March 8, 2018 at 3.06pm. The modification was lodged on 27 February 2018.

In its [sixth newsletter](#) dated April 2018, the company shares its plans for an open cut mine and its intention to lodge a Gateway Application in May 2018. It promises that 'Newsletter 7 will provide details on how to get involved.'

In its [seventh newsletter](#) dated June 2018, there is no mention of how community members can 'get involved' with respect to their open cut proposal. Instead It states:

*AQC is continuing to refine feasibility studies on an optimised open cut plan to further develop the valuable coal resources at Dartbrook Mine. As and when these plans materialise, AQC will consult with a range of stakeholders in a logical and progressive manner.*

They do share details of consultation for the underground proposal and again claim to have consulted with their near neighbours – a statement disputed by several near neighbours.

*AQC has consulted with various stakeholders including NSW regulatory authorities, local councils, other mining stakeholders, the Dartbrook Community Consultative Committee,*

*Aboriginal parties and near neighbours. The stakeholder engagement program has identified a number of issues that are of concern to external stakeholders. The outcomes of the stakeholder engagement process informed the preparation of the Environmental Assessment (EA) for the Modification.*

## **Community Consultative Committee Meetings**

Upon reviewing the minutes of the Dartbrook Community Consultative Committee meetings since Australian Pacific Coal took ownership, there is further cause for concern.

In particular, we note the meeting minutes from the March 2018 CCC Meeting, when CCC members were advised after the fact of the modification application lodged on 27 February 2018.

5.3 KF questioned the differences between the AQC statements to the ASX in early 2017 and the plans publicly provided in the recent newsletter and in the presentation. AR confirmed that the plans were quite different and that these had changed due to further work conducted by the Company on a smaller scale operation.

KF is Chair and Upper Hunter Shire Council representative, Kiwa Fisher. AR is Andrew Roach.

Advising the CCC of such a significant event after the fact is concerning to FOTUH and speaks to a pattern of failing to engage meaningfully and in good faith with the local community in developing its plans.

Such significant events would be well known by the company in advance and should be signalled to the CCC members in order that they might have time to consult more broadly with the community.

We note that the Company had already been requested (and had agreed) to do just that at its first CCC meeting after taking ownership of the mine.

See the minutes for the August 2017 CCC meeting:

8.2 ND was concerned that there wasn't enough detail on the next CCC meeting sent out prior to the actual meeting. It was agreed that, where possible, greater detail will be circulated to the members in the agenda prior to the meeting

ND is Noel Downs, Muswellbrook Shire Council representative. FOTUH considers that a detail such as the intention to lodge a s75w modification would fall under that commitment.

## 3. FOTUH engagement activities and findings

### Formation of the group

In the light of what was seen as a concerning absence of engagement from Australian Pacific Coal, and of significant concern regarding the company's two mining proposals, Friends of the Upper Hunter Inc. was formed in March 2018.

Working from an initial core of motivated community members a wider group of approximately 30 people were assembled who met regularly, critically reviewed public documents, raised questions and identified broad areas of community concern. This broader engagement ensured a deep understanding of community concerns and issues with respect to the Underground proposal.

### Findings from face to face interviews

Group members undertook to speak with as many individual community members as possible, particularly those who would be most impacted.

Informal interviews were conducted with 325 neighbours of the mine, irrigators throughout the Kingdon Ponds / Dartbrook systems, contacts within the wider network (family members, friends, neighbours, community members), prominent members of the agricultural, business and tourism industries, local educators, regular visitors to the area and members of other existing groups. Numerous interviewees work in, or at least earn part of their income from the mining sector.

### Broad findings

- Low levels of awareness (<10% unprompted awareness of the proposal)
- Relatively high levels of cynicism regarding the ability of community members to influence the planning process (>30% of those approached). Worth noting that at least 10 participants referred to the Bengalla / Rosemount Estate 'change with the stroke of a pen' unprompted and presented this as a reason not to participate.
- Other respondents raised concern for their own jobs or those of their family members employed by other mines if they made public comments or submissions against the Dartbrook Proposal. They agreed instead to have their concerns shared as part of this consultation report.

Through the interview process FOTUH identified the following themes of concern (which would later drive consultation topics for the Community Forum in Aberdeen)

- Cumulative impacts
- Air quality and human health
- Water security and quality
- Impact on prime agricultural land
- Quality of life impacts (related to noise, dust, odour, visual amenity)
- Safety concerns for workers
- Concerns regarding targets for local hires (and whether the jobs would really be filled by local people)
- Impact on surrounding industries - particularly farming and tourism
- Adverse impact on property values
- Impact of residents who may be displaced



- Community dislocation
- Climate change

A number of significant insights were gained from this exercise. In terms of sentiment:

- A total of 97% of interviewees opposed the underground proposal
- 1.5% of respondents were neutral, but when asked about the open cut plans, 5 of the 5 neutral respondents said they didn't believe the open cut would be allowed to proceed. If it did, 3 of the 5 neutral respondents said they would oppose the open cut.
- 1.5% of the respondents were supportive of the underground proposal. When questioned about the open cut, 4 of 5 said they didn't think the open cut would ever be allowed to go ahead, and if it did, 2 of the 5 would be opposed to the open cut.
- All neutral and supportive respondents cited perceived economic benefits as the sole reason for their support.

In terms of concerns among those opposed to the mine:

- 100% identified cumulative impacts and expressed the sentiment that the region already has sufficient (or far too much) mining underway
- 98% raised current air quality challenges and the area's overburdened airshed as a key concern (including 100% of Scone, Aberdeen and Muswellbrook residents)
- 96% of those opposed raised water security and quality as a key concern with numerous respondents from the Aberdeen and Scone districts stating that the last time the mine operated, it had a negative impact on irrigation wells upstream and downstream of the mine and on the Hunter River
- 87% of respondents were concerned about the impact on agriculture and productive farmland with many expressing the sentiment that we need buffer zones around our productive agricultural land.
- 93% (and 100% of Aberdeen and Scone respondents) were concerned about quality of life impacts associated with noise, dust, odour, visual and traffic)
- 52% raised the prior history of the mine and safety risks for workers with one former worker describing the mine as 'a deathtrap' and another as 'an accident waiting to happen'.
- 80% of respondents criticised the relatively small number of local jobs and expressed the sentiment that the local community would not have sufficient experienced people available to fill those positions - that they would probably be filled by DIDO workers
- 85% of respondents cited the impact on surrounding industries
- 44% raised concerns that property values in the Aberdeen district would drop while those in neighbouring mine-free areas would rise, exacerbating the difficulty for those displaced by mining or wanting to move away from its impacts
- 51% were concerned about the emotional and economic impacts for displaced residents
- 71% were concerned about the impact of such a contentious proposal on community cohesion, on the risk of an 'us and them' confrontation and of people splitting into 'camps' and also of the loss of local people from the community and the impact of losing local history and knowledge

- 87% were concerned at the impact on climate change, that reopening the mine is a regressive step and that we are creating an unfair burden on future generations when we should be looking to invest in other sustainable industries and renewable energy.

A number of informative meetings were held with near neighbours of the mine. The feedback from these near neighbours was:

- Most had had no contact with the company at all and had experienced no proactive engagement
- They cited longstanding issues – noise, gas, odour, water (impact on wells) which were not addressed to their satisfaction during Anglo American’s tenure and have not been addressed to their satisfaction in the current proposal. Several had not even seen the current proposal.
- They were deeply concerned about a repeat of issues with groundwater and asked what compensation they would be eligible for if the proposal proceeds knowing the risk and the problem occurs again.
- Some of the near neighbours declined to make comment saying that they have leases in place with the company and felt they would risk losing those leases if they made public, negative comments about the proposal.

### **Impact on wells**

An issue of significance for local landholders is the widely-held belief that irrigation wells were negatively impacted and the Hunter River itself changed as a result of the initial operations of the Dartbrook Underground Mine under Anglo American.

A total of six property owners presented anecdotal evidence of the impact on their properties and farming operations in the early 2000s. While most said the water levels had at least partially recovered since the mine has been in Care and Maintenance, they agreed that the wells have never fully recovered.

Key comments from these interviews include:

*‘We had a whole orchard die and we had to get rid of our stock... that kind of thing sticks in your mind. We also used to see the water going frothy... we knew they were doing something up at the mine when that happened.’*

*‘I’ve farmed in this area for over 60 years. I’ve been through huge droughts in the sixties, the eighties and at the start of the millennium... I know what that well can do and I can tell you that levels that would normally have lasted us 18 months took less than 6 months to disappear. We also had a couple of calves go to sleep near their methane vents and never wake up. They said it could be anything but the next thing we knew there were signs up telling people not to loiter in the area.’*

*‘It stands to reason, doesn’t it? A catchment is like a big bathtub and Dartbrook effectively pulled the plug out.’*

*‘I burned out two pumps where previously I’d had no trouble running 50 sprays. The mine stopped running. The water largely came back.’*

FOTUH was limited by time and budget in undertaking this consultation and suggests further effort is invested in understanding and documenting these issues as well as more widespread monitoring of water quantity and quality in irrigation wells across the Upper Hunter and Muswellbrook LGAs. This is consistent with the advice from the Commonwealth Bioregional Assessment Team who produced the Hunter Bioregional Assessment.

## **Findings from Dartbrook Community Forum**

During the informal interview process, FOTUH members received multiple requests for an open community meeting to inform the wider community and give people who hadn't yet been contacted an opportunity to hear further information. As a result, and in the absence of any similar exercise from the proponent, FOTUH organised the Dartbrook Community Forum.

### **Venue and time**

The Forum was held at 6pm on Sunday April 7 at the Aberdeen RSL Club, Moray St Aberdeen.

### **Publicity**

The Forum was advertised in local newspapers (The Hunter Valley News and the Scone Advocate) and via interviews with Radio ABC Upper Hunter and Radio 2NM for the five days immediately prior to the event.

### **Agenda**

(Attached at Appendix 2)

### **Feedback session format and rationale**

In order to give all participants the opportunity to make comments, raise concerns and ask questions in a non-confrontational way that acknowledged the value of a variety of viewpoints, FOTUH opted for a facilitated World Café style consultation, as recommended by the International Association for Public Participation.

Participants were invited to write their feedback down and post it under an appropriate theme. They had the opportunity to discuss their feedback with other people at their table and to ask questions of group members throughout this facilitated activity. Participants with writing difficulties or vision impairment were offered assistance from FOTUH members although most opted to work with the friends and neighbours they were sitting with.

### **Impromptu Q&A**

Australian Pacific Coal CEO John Robinson also made an informal appearance at the Forum and offered to take questions from the floor. The session ran for approximately 30 minutes.

### **Key concerns from Q&A**

There were a number of key concerns raised by the answers that Mr Robinson was able to provide on the night. Notably:

- That Mr Robinson stated that while there may not be enough workers in the immediate Aberdeen area to fill the jobs, that there would be enough people within the 'greater district' to fill the local jobs, with 'local' workers coming from Narrabri to Newcastle. When pressed on the target number

for 'local' workers identified in the Modification Proposal (70 operational), he stated that the company 'put some numbers in there for the purpose of the IPC application.' This raises questions regarding the credibility of the information presented in the application.

- That Australian Pacific Coal did not have a plan for mine closure and regeneration because 'we aren't going to shut it' (the mine). When questioned about what the costs would be if and when the mine is closed, he at first said no costs had been calculated and then in another answer said that the bond with the NSW Government would be sufficient to cover the costs of regeneration.
- That he started the meeting by saying the company has no plans for an open cut mine but finished the meeting by saying he answers to a Board of Directors and couldn't give guarantees on something like that.

### ***Outstanding questions from Q&A***

Mr Robinson undertook to come back to FOTUH and the community on a number of outstanding questions. These were provided to Mr Robinson on Weds 10 April. As yet these questions remain outstanding. They are included at Appendix 3.

### **Participants**

The Forum was attended by 101 participants (approximately 20 of whom had already participated in a one-on-one interview with a member of FOTUH).

A group of approximately six participants who were supportive of the mine (including Mr Robinson, a staff member, and a local contractor of the mine) also attended the session.

All remaining participants were opposed to the mine.

Sentiment and comments at the Forum echoed that received during the one-one-one interviews, with the exception that several of the supporters highlighted the economic importance of mining and expressed the hope that the proposal goes ahead to provide jobs to the community.

### **Broad findings**

A total of 547 questions, comments and concerns were received during the Forum across the following themes, listed in order of frequency of mention:

- Community impacts
- Air quality
- Water
- Health and wellbeing
- Environment (other than water and air)
- Farming
- Planning for the future (transition)
- Economic impact
- Safety
- Climate change and intergenerational equity
- Rehabilitation
- Capacity and experience of the proponent

The specific topics raised under each of these broad themes are summarised below.

The raw comments posted by community members under each of these themes has been transcribed and included at Appendix 1. These raw comments reveal the depth of concern, fear, and indeed outrage, that this proposal has attracted within local communities. They also serve to highlight the significant uncertainties and unanswered questions about this proposal.

### **Broad themes raised under 'Community' at Dartbrook Community Forum**

- Amenity impacts - noise, visual, odour, traffic
- Community dislocation and loss of local knowledge / resources
- Identity of the Upper Hunter as a farming community
- The need for solid employment for locals in all industries
- Impact on property values (negative in areas adversely affected / positive in areas not affected making it even harder for displaced individuals to remain in the community)
- Rising cost of living and growing inequality in the community (two-speed economy)
- Access to infrastructure and services such as the passenger rail service through the crowded coal rail network

**Total 'Community' concerns raised at Forum 92**

**Ranking for 'Community' concerns out of the broad themes raised 1st**

### **Broad themes raised under 'Air' at Dartbrook Community Forum**

- Unacceptable cumulative air quality impacts and the frequent and concerning NEPA exceedences
- Impact of methane
- Sulfur smell
- Dust affecting amenity, quality of agricultural products, appeal as a destination, appeal as a place to live
- Unquantified air pollution from the transport of coal
- Additional dust from crushing, loading and transporting unwashed, lower quality coal

**Total 'Air' concerns raised at Forum 73**

**Ranking for 'Air' concerns Equal 2nd**

### **Broad themes raised under 'Water' at Dartbrook Community Forum**

- Unacceptable impact on local water security for drinking water, irrigation, farming, horse studs, viticulture and other existing mining
- Pollution (including salt pollution) of precious water sources
- Impact on drinking water, including downstream and in tanks
- Potential damage to aquifers
- Concerns that the EPA can't adequately manage or police proponents

**Total 'Water' concerns raised at Forum 73**

**Equal**

**Ranking for 'Water' concerns out of the broad themes raised 2nd**

### **Broad themes raised under 'Health and Wellbeing' at Community Forum**

- Concern for the individual and cumulative health impacts on the wider community with pollution (particularly air and water), traffic, noise etc
- Mental health implications for those impacted by mining (residents and people in other industries) and those involved in mining (with constant concern for longevity of employment)
- Expected exodus of residents (particularly farmers) and the fear about the negative changes this will spark in the community
- Concern at the need to preserve community unity
- Worry about the safety of local people who may be employed by this mine

**Total 'Health and Wellbeing' concerns raised at Forum** 64  
**Ranking for 'Health and Wellbeing' concerns** 3rd

### **Broad themes raised under 'Environment' at Dartbrook Community Forum**

- Concerns regarding odour
- Concerns regarding noise
- Concerns regarding climate change
- Concerns regarding biodiversity
- Concerns regarding rehabilitation
- Concerns that the EPA can't adequately manage or police proponents
- Concerns regarding the loss of the 'clean and green' perception of the area

**Total 'Environment' concerns raised at Forum** 63  
**Ranking for 'Environment' concerns** 4th

### **Broad themes raised under 'Farming' at Dartbrook Community Forum**

- Impact on strategic agricultural land
- Impact on long term agricultural prospects
- Impact on farmers and the farmers community
- The challenge of co-existence
- Impact on water required for productive agriculture
- Impact on 'clean and green' image needed for food production

**Total 'Farming' concerns raised at Forum** 45  
**Ranking for 'Farming' concerns** 5th

### **Broad themes raised under 'Other' at Dartbrook Community Forum**

#### ***Planning for the future***

- Concern regarding future open cut plans

- Concern regarding the transparency and fairness of the planning process
- Concern regarding the lack of cumulative impact assessment tools.
- Sentiment that we need to have pollution limits by airshed and catchment. That we are past the tipping point of how much mining can be safely sustained and there is no limit in place.
- Support for Upper Hunter Shire Council's no mining position

**Total sub-category Planning/Future 36 6th**

### **Broad themes raised under 'Safety' at Dartbrook Community Forum**

Concern for the physical safety and mental health of miners

Concern for the safety of the wider community with traffic, pollution etc

**Total 'Safety' concerns raised at Forum 31**  
**Equal**  
**Ranking for 'Safety' concerns 7th**

### **Broad themes raised under 'Other' at Dartbrook Community Forum**

#### ***Economic impact***

- Negative economic impact on other industries needed for transition (particularly farming, horse breeding and tourism)
- Concern that jobs won't be local
- Questions as to whether this additional impact is justified when prominent miners such as Glencore are capping production.
- Support for the mine on the basis of economic benefits

**Total sub-category Economic impact 31 Equal**  
**7th**

#### ***Climate change and intergenerational equity***

- Concern that this project and others like it will exacerbate climate change at a time when urgent action is required to address climate change.
- *Vision for the future*
- Concern that opening a new thermal coal mine is a regressive step and we should be pursuing clean energy

**Total sub-category Climate Change and intergenerational equity 24 8th**

#### ***Rehabilitation***

- Doubts that rehabilitation will be undertaken / will work

**Total sub-category Rehabilitation 8 9th**

#### ***The proponent***

- Doubts that the company and their development partner have the experience or capital to safely manage this mine and to fulfil their environmental obligations

**Total sub-category The Proponent 7 10th**  
**Total 'Other' concerns raised at Forum 106**



## Findings from online engagement

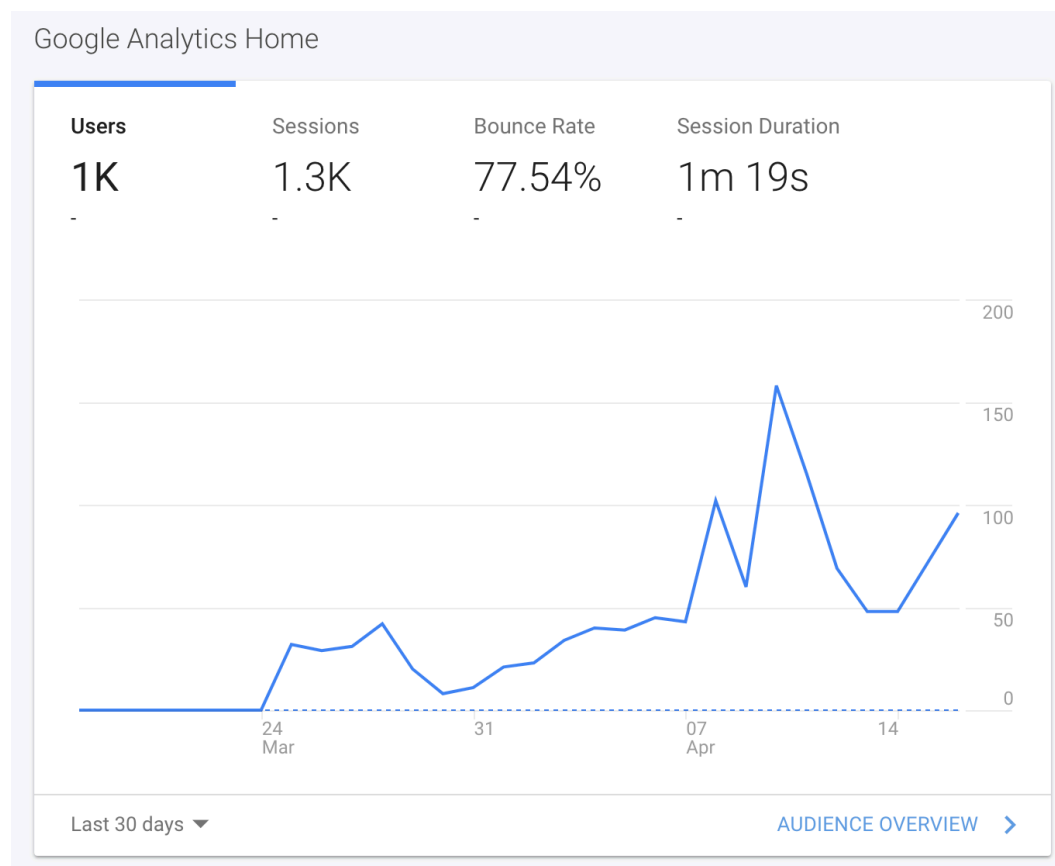
FOTUH utilised two primary platforms for its online engagement campaign, its website ([www.nodartbrook.com](http://www.nodartbrook.com)) and its Facebook Page (@Friends of the Upper Hunter). Content on both platforms aimed to maximise submissions to the IPC but also encouraged audiences to engage with upcoming events including the Community Forum and the IPC Public Meeting.

Despite limited time and budget to organically build an audience, the two sites combined reached a total audience of over 23,000 people (1000 unique website users, 22,098 Post Reach for Facebook).

Significantly, the Facebook page and the website only attracted comments from 14 users who were supportive of the Dartbrook proposal or mining generally. This was lower than anticipated, particularly with posts being boosted within the local area (and therefore promoted to a significant number of coal miners) throughout the final week of the consultation.

### Website

Despite only launching the FOTUH website on 24 March, the site attracted 1000 individual users. No negative feedback was received through the site. It appears that many visited the site for the purpose of making a submission (the primary call to action on the home page is to make a submission via the IPC website, hence the short session duration and the relatively high bounce rate).



## Facebook page

Despite only creating the FOTUH Facebook page on 21 March 2019 and only having capacity to post regular content in the week from April 9 to 16, the FOTUH Facebook page posts reached a total audience of over 22,000 people in the local area (Assisted by targeted Facebook advertising within the Upper Hunter).

Of that total paid audience, the page attracted 3470 total post engagements, 662 page views and 183 likes.

Having advertised the posts, which were aimed at maximising submissions to the IPC, to a public audience that included a strong mining community, FOTUH had anticipated a potentially contentious reaction. Eager to maximise engagement opportunities, the comment function was left enabled and a fairly light-touch moderation adopted, with supporters of mining encouraged to share their views (see example below):



**Friends of the Upper Hunter** Guys we just want to say thanks for the good comments and questions on here. It's really important to hear from both sides of the argument. **Ryan Bates****Lennard Woodley****Geoff Brunker****Nigel Mcilveen** thanks for raising your point of view. We all live here after all. Happy to keep having the conversation whenever time permits.

Surprisingly, just 14 users shared pro-mining or pro-Dartbrook viewpoints.

Sentiment from other users reflected significant concerns about water, air quality, cumulative impacts, the impact on farming and the impact on local residents.

Still other residents expressed cynicism regarding the process.

The vast majority of users stayed silent and it is FOTUH's opinion that this is due to the divisive and heated social media commentary that ensued from the first and subsequent Drayton South campaigns – particularly on various local community noticeboards. This tension demonstrated and possibly reinforced the separation of the community into 'camps'. Numerous interviews from the one-on-one interview phase commented on this and remarked that they would not comment on social media as a result.

Overall FOTUH considers the online engagement to have been an effective complement to the face to face engagement activities and believes it is significant that just 14 commentators ventured support for the proposal, and also that commentary on the whole remained constructive and civil.

## 4. Conclusion

The community consultation activities coordinated by FOTUH revealed significant concerns about the Dartbrook Underground Modification from communities within the Muswellbrook and Upper Hunter LGAs and further afield, with >97% of consulted community members opposed to the application.

Out of a consulted community of greater than 23,000 people, fewer than 24 people spoke out in support of the proposal.

The feedback from community members is rich, relevant and well considered.

Community members have shared their fears and aspirations, have given a clear indication of their vision for the future and have revealed the true depth of adverse social impact that this proposal can be expected to create.

If one compares the raw comments included at Appendix 1 against the nine categories of social impact (below) which were defined in the NSW Government SIA Guidelines and set out in *Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7*, it is clear that community members within the Upper Hunter and Muswellbrook LGAs may experience adverse social impacts in every category.

Importantly, community members have indicated that they *fear* these impacts and that this fear is influencing their decision making and causing them stress.

### **Nine categories of social impact defined in NSW SIA Guidelines.**

- 1. Way of Life** (Definition: This includes how people live, work, play and interact with each other)
- 2. Community** (Definition: This includes the composition, cohesion, character and function of community and people's sense of place.)  
*masculinisation of the town through the influx of mine workers;*  
*social tension between those who support and those who oppose the project; and*  
*impact on emotional attachments to the land.*
- 3. Access to and use of infrastructure services and facilities:** (Definition: This includes consideration of any increase in the burden on existing infrastructure (including traffic noise) and also additional facilities that would be required as a consequence of the project.)
- 4. Culture:** (Definition: This includes shared beliefs, customs, values and stories, as well as connections to land, places and buildings. Culture includes both Aboriginal and European culture and heritage, with specific consultations with Aboriginal people considered best practice. )
- 5. Health and Wellbeing:** (Definition: This incorporates both physical health (including impacts from noise, night lighting, fine particles and other contamination) but also mental health and other social impacts such as an expected exodus of residents. )

6. **Surroundings:** (Definition: This includes access to and use of ecosystem services, public safety and security, access to and use of the natural and built environments, and aesthetic qualities and amenity. The concept of the "amenity" of a place or locality is wide and flexible. This is not just a physical inquiry – amenity may embrace the effect of a place on the senses, the residents' perception of the locality and their envisaged impacts from the project.)
7. **Personal and property rights:** (Definition: This includes issues related to economic livelihood and whether or not people experience personal disadvantage or have their civil liberties affected. This consideration may extend to those who formerly owned the land subject to the project as well as those nearby.)
8. **Decision making systems:** (Definition: This is related to the extent to which individuals and groups experience a say in the decisions that affect their lives and if they have access to complaints, remedy and grievance mechanisms.)
9. **Fears and aspirations:** (Definition: This is related to one or a combination of the above, or about the future of their community. Relevantly, people who support the project also have fears and aspirations which should not be discounted.)

We respectfully put to the Commissioners that in evaluating the Dartbrook Underground Mine Modification 7, it is relevant to consider this community feedback, to consider the vision for the future expressed through this feedback and to weigh the significant disbenefits which this community fears it will experience as a result of re-starting this mothballed mine.

## **5. Appendices**

### **Appendix 1: Dartbrook Community Forum Feedback**

The following comments have been transcribed from the raw feedback provided by participants at the Dartbrook Community Forum held on 7 April 2019 at the Aberdeen RSL Club.

## Specific Comments made relating to 'Farming' at Dartbrook Community Forum

Black text = comment primarily relates to this category [Blue text = comment relating to more than one category](#)

- Effect of gas on animals
- Irreversible destruction of prime farming land
- Dairying - the last in the district - much more essential than devastation of farming profit
- Destroying available farm land and destroying all farms around - farmers will all leave the area
- How will farming growth and consolidation be assured
- Future industries for when the mines finish need to be protected
- Destruction of productive farming land
- Interruption to aquifers and supply. Impact on water availability to established farming businesses
- Impact on future of agriculture upstream in long term
- Effect on good farmland - we don't have too much of it left
- So little fertile country left in this area - can't reduce our critical farmland
- Dust problem affecting crops, animals, dust on lucerne, crops and rain
- Competition for water between miners and agriculture
- Dust on natural pastures - effect on grazing animal long term/unknown - health
- The mine will threaten and destroy river flats which will be lost forever. "rehabilitation" doesn't work - **STRONGLY AGREE WITH THIS**
- Farming has a long term future. Coal mining is short term.
- Destruction of water resources on the river flats is criminal
- This mine is proposed in one of the Upper Hunter's rare farming irrigation basins. We are open to mining. Mining needs to respect agriculture and our future.
- We should all value the farming land we have for the future without having any more dug up and losing it to mines
- Ag base starts at Dartbrook - negative for visual; negative for proximity to Aberdeen
- Damage to river flats
- Loss of long term farming operations - 100 years+
- Valuable river flat - potential damage
- Prime agricultural land
- Water, air impacts on agriculture
- Loss of more farming families in the community
- One of the three most important horse breeding areas in the world being jeopardised by an industry with a finite life
- Loss of dairy farms - good arable country
- Losing the farmers who know the land
- What compensation will you provide to farmers whose wells go dry? Will you bring a water truck to my place each day?
- Really good productive area being depleted when these areas are not widespread in this country
- Damage to good river flats
- Use of good quality agricultural land for mining - we can't eat coal
- Damage to precious river flats

## Specific Comments made relating to 'Farming' at Dartbrook Community Forum

Black text = comment primarily relates to this category Blue text = comment relating to more than one category

- How can they justify compromising the ecology, environment, agricultural businesses, horse studs, dairy farms, our young people (Aberdeen has 3 schools) when Dartbrook mine itself has a problematic history of flooding, spontaneous combustion and gas solution.
- Damage to reputation of horse studs
- Water table underground for agriculture and environment
- Underground water MOST valuable resource for ALL businesses - agriculture/viticulture/equine
- Our water is precious - we can't grow crops or water our stock without it. What will the effects be on aquifers and rivers
- Impact on farm irrigation water
- The Dartbrook mine will use water that the Upper Hunter CANNOT SPARE. Town supplies, irrigation, stock
- The effect of the mine on the water aquifers - irrigation, agriculture, available water for these.
- Will farmers be compensated for any lack or shortage of water which might cause disruption to farming operations and production? Knowing full well that when the mine initially went into production around 1998 the existing water in the wells and bores dropped to alarming levels, and never totally recovered, though much improved at this stage, still not what they were.
- In years gone by even with up to 10 years of drought with a major dairy industry of 400 dairies supplying OAK in Muswellbrook the majority of which drew their water supply from the underground water supply. Not so now.
- We have some of the best agricultural land in Australia - our future. How is it guaranteed?

**ENDS**



## Specific Comments made relating to 'Community' at Dartbrook Community Forum 7 April 2019

Black text = comment primarily relates to this category [Blue text = comment relating to more than one category](#)

- Impact on transport infrastructure
- Whole value of living on the Aberdeen hillside is ruined by farmland being turned to industry
- If they rejected "Rocky Hill" on account of climate change surely with the amount of methane (which killed workers) produced by Dartbrook, it should also be rejected for same reason.
- NOISE 11 hours a day would be unbearable for Aberdeen? NOT acceptable at all
- Mental health of community. Very divisive in the community. Destroy the fabric and diversity of community.
- Tourism (\$, jobs) in Upper Valley - entire impression of valley from road and rail, despoiled
- Loss of diversity in community with potential loss of other industries
- Solastalgia
- Intergenerational inequity
- Community vandalism
- Increased house prices. Decreased people providing services at normal prices e.g. electricians, plumbers
- Damage to community. No-one will want to live in the towns of Muswellbrook and Aberdeen
- Our carbon budget is almost used up
- Dido effect on town
- Climate change - this carbon is already sequestered
- Relocation of families
- Reduced opportunity for environmental tourism in the future - clean Upper Hunter
- Out of area workers getting jobs NOT displaced locals
- Mental health
- A new hostility towards each other as people break into "camps"
- Impact of 11 hours of B-doubles on our roads
- Start building solar farms instead
- Community groups are dependent on funding from mines. This places too much power in the hands of the mining companies
- Very concerned re open carriages of coal passing through towns
- You don't always find that families come with mine workers. Miners will travel/families will stay in larger towns with infrastructure
- Mining towns push out lower income families-rents increase/housing demand/cost of living goes up
- Jobs -it is well documented that mining proponents always overestimate the number of jobs. It is apparent and evident that many more workers travel from Lower Hunter
- APC promises 70 jobs for local people. The mine will divide, polarise and (when it closes) destroy the town - not worth 70 jobs
- More trains on the already overcrowded Hunter line. Disruption to our much-needed passenger train service
- Top heavy industry. We need to develop a future which is sustainable

## Specific Comments made relating to 'Community' at Dartbrook Community Forum 7 April 2019

Black text = comment primarily relates to this category [Blue text = comment relating to more than one category](#)

- Community long term uncertainty through this process
- Long term residents can no longer afford to stay in the Valley
- How will you ensure that the jobs are local?
- What time will trains be arriving to load? Have you had any indication of time slots?
- More trains on the already overcrowded Hunter line. Disruption to our much needed passenger train service
- Traffic on highway? - increase/decrease?
- Noise, pollution, dust, contaminated water, water shortage, wreck agriculture, we did ok before mines. Rail noise. Truck movements.
- How many train movements a day/week are proposed
- We DO NOT need MORE coal trains moving across the countryside
- We do not need another mine in our small community. Too close to town and farms!
- Local non-farming families will move from the area - business - skilled community members. Mining families will move in - but when the mine is finished - they will move on and the town will die.
- Communities sacrificed for MONEY
- So many communities destroyed. Families who have lived in communities for generations moved on.
- Noise of trains
- What time will trains be arriving to load? Have you had any indication of time slots?
- [Destroying available farm land and destroying all farms around - farmers will all leave the area](#)
- [Mine subsidence](#)
- [Ag base starts at Dartbrook - negative for visual; negative for proximity to Aberdeen](#)
- [Loss of more farming families in the community](#)
- [Losing the farmers who know the land](#)
- [Mental health of community](#)
- [People were working deep in water, I am told. Could say nothing.](#)
- [Road safety - tired miners/too many trucks/trains....Mental health](#)
- [Safety of miners](#)
- [Potential issue with problems already raised/mention of safety affecting community and workers](#)
- [What compensation will you provide to farmers whose wells go dry? To impacted residents in the town? To other impacted industries?](#)
- [Quality of life of residents resulting from environmental issues such as noise, congestion etc.](#)
- [Views across valley and along valley - trucks/cars/parking/road/vents/waste heaps. Threat of open cut mountain](#)
- [Trucks - too many on roads-no one will want to visit. Dangerous. Trains and trucks will be all you will be able to visit](#)
- [Views across and along valley seriously compromised by 1\) Mod 7 2\) by threat of open cut](#)
- [Loss of traditional Hunter Valley rural life due to proliferation of mines in recent times; can't keep increasing](#)

- Loss of opportunity for expansion of environmental tourism in future
- Muswellbrook already one of two most polluted postcodes in Australia
- How much noise will the CHPP generate, both in processing and loading trains
- Extra trains running on line. What noise abatement will be made for residents
- Noise and impact on nearby residents
- Our area is beautiful and pristine. A mine and extra trucks will ruin this
- 192 truck movements per day - dust/noise/visual impact - NO
- Environmental safety - effect on local communities and well being (noise, traffic, general pollution)
- Underground water. Dust. Noise. Increased release of greenhouse gases. Living quality. Communities destroyed. Health problems. Climate change.
- Visual amenity of the region
- Damage to reputation of horse studs
- How can they justify compromising the ecology, environment, agricultural businesses, horse studs, dairy farms, our young people (Aberdeen has 3 schools) when Dartbrook mine itself has a problematic history of flooding, spontaneous combustion and gas solution.
- With only 1.3km from Aberdeen with our prevailing southerly winds, Aberdeen will become a dust bowl.
- Noise pollution - noisy vehicles, intrusive lights, reverse alarms when coal are loading. This can be anytime of the day or night
- Water quality in tanks is being compromised
- Train trucks - will increase coal train movements and why are coal wagons still not being covered
- When my well runs dry who will bring me water each day in a truck?
- Dust from mine - settling on house rooves - washing into house tanks - quality of drinking water to household
- The Dartbrook mine will use water that the Upper Hunter CANNOT SPARE. Town supplies, irrigation, stock
- Water quality - coal dust on rooves washing into house tanks
- Polluting the atmosphere to the point of not wanting to live here
- Noise. Pollution. Trucks. Trains. 24 hours
- General health concerns especially for young, old and compromised individuals with air quality
- Community impact - e.g. air pollution, visual pollution
- Muswellbrook looks like there is a fire around but it's the dust in the air. What does that do to our lungs. We do not want in our area
- We live in Wingen. Our air quality is impacted by Hunter Valley mining and coal carrying trains. Our fresh water tank is polluted by coal dust. Black dust is evident in our house every day. This additional mine will only increase air, dust and visual pollution in the Upper Hunter
- Already coal-burning smells every week from power stations!
- Tunnel under Hunter River. Seepage into Hunter River causing further pollution. Rail, truck movements. Coal stockpile so close to Aberdeen. Dust across Aberdeen
- 65% of workers in Upper Hunter don't live in the communities - Singleton traffic concerns

**ENDS**

## Specific Comments made relating to 'Safety' at Dartbrook Community Forum 7 April 2019

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- People were working deep in water, I am told. Could say nothing.
- Road safety - tired miners/too many trucks/trains....Mental health
- Safety concerns for workers
- Truck movements increase in area
- Coal miners doing long hours are increased risk of mental health issues
- There is too much gas CO2 and methane in this mine. Dangerous locally and globally
- With ongoing safety concerns closing underground operating the concern is they will quickly progress to applying for open cut
- There have already been 3 deaths
- Increased vehicular movements can cause more accidents and incidents with traffic
- The previous mine filled with gas and water. How is this going to be controlled? Safety of workers
- What union will support these workers? Zoned troubled.
- Dangerous site. Lives at risk. Community and safety.
- Is bord and pillar a safer way of mining (i.e. subsidence has already happened)
- Flooding of mine
- Spontaneous combustion
- Drivers at shift change
- Safety of miners
- Precedent of gas and WHS Issues in mine
- Gas biggest issue. What makes them think they can manage that better?
- Potential issue with problems already raised/mention of safety affecting community and workers
- Safety - can an untried mining Co. manage the issues of safety
- If it has been an issue with safety what will the extent of modification be to ensure miners well being?
- Concerns re general safety of mine - vehicle movements and working within
- This mine proposal is just too dangerous for employees underground. We will see many more deaths if it goes ahead.
- What evidence do you have that the bord & pillar operation will be safe if we experience more earthquakes like we experienced in Muswellbrook in recent years?
- What control over gas emission will the company have? And combustion of seams?
- The threat of a gas explosion - it is a real concern. Its one of the top worries
- [Mental health of community. Very divisive in the community. Destroy the fabric and diversity of community.](#)
- [A new hostility towards each other as people break into "camps"](#)
- [Illegal loads on trucks \(60T\). Where will truck maintenance occur?](#)
- [What type of B double can carry 60 tonne - air quality](#)

**ENDS**

## Specific Comments made relating to 'Health and Wellbeing' at Dartbrook Community Forum 7 April 2019

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- Mental health of community
- Dangers of air and water pollution to farms and town
- The valley is at its narrowest and all the water meets there. WRONG place for a mine. **Same problem 1920's - mine failed**
- Reference "Thematic history of Kayuga" has history of failed mine Muswellbrook Library
- Truck movements increase in area
- Health concerns for community. Dust=respiratory disease increases measured down valley at Muswellbrook/Singleton
- With ongoing safety concerns closing underground operating the concern is they will quickly progress to applying for open cut
- Spontaneous combustion
- Gas biggest issue. What makes them think they can manage that better?
- Potential issue with problems already raised/mention of safety affecting community and workers
- [Dust on natural pastures - effect on grazing animal long term/unknown - health](#)
- [Loss of more farming families in the community](#)
- [Mental health of community. Very divisive in the community. Destroy the fabric and diversity of community.](#)
- [Solastalgia](#)
- [Dido effect on town](#)
- [Relocation of families](#)
- [Mental health](#)
- [A new hostility towards each other as people break into "camps"](#)
- [Community groups are dependent on funding from mines. This places too much power in the hands of the mining companies](#)
- [Very concerned re open carriages of coal passing through towns](#)
- [You don't always find that families come with mine workers. Miners will travel/families will stay in larger towns with infrastructure](#)
- [Mining towns push out lower income families-rents increase/housing demand/cost of living goes up](#)
- [Top heavy industry. We need to develop a future which is sustainable](#)
- [Community long term uncertainty through this process](#)
- [Long term residents can no longer afford to stay in the Valley](#)
- [APC promises 70 jobs for local people. The mine will divide, polarise and \(when it closes\) destroy the town - not worth 70 jobs](#)
- [Do your dams and ponds overflow in heavy rain and where does that water go?](#)
- [What time will trains be arriving to load? Have you had any indication of time slots?](#)
- [How much methane will you discharge when operational? Will it be different under bord and pillar?](#)

- Trucks - too many on roads-no one will want to visit. Dangerous. Trains and trucks will be all you will be able to visit
- Loss of traditional Hunter Valley rural life due to proliferation of mines in recent times; can't keep increasing
- Muswellbrook already one of two most polluted postcodes in Australia
- How much noise will the CHPP generate, both in processing and loading trains
- Extra trains running on line. What noise abatement will be made for residents
- Noise and impact on nearby residents
- Environmental safety - effect on local communities and well being (noise, traffic, general pollution)
- Underground water. Dust. Noise. Increased release of greenhouse gases. Living quality. Communities destroyed. Health problems. Climate change.
- How can they justify compromising the ecology, environment, agricultural businesses, horse studs, dairy farms, our young people (Aberdeen has 3 schools) when Dartbrook Mine itself has a problematic history of flooding, spontaneous combustion and gas solution.
- With only 1.3km from Aberdeen with our prevailing southerly winds, Aberdeen will become a dust bowl.
- Noise pollution - noisy vehicles, intrusive lights, reverse alarms when coal are loading. This can be anytime of the day or night
- Water quality in tanks is being compromised
- Train trucks - will increase coal train movements and why are coal wagons still not being covered
- Dust from mine - settling on house roofs - washing into house tanks - quality of drinking water to household
- Water quality - coal dust on roofs washing into house tanks
- Will farmers be compensated for any lack or shortage of water which might cause disruption to farming operations and production? Knowing full well that when the mine initially went into production around 1998 the existing water in the wells and bores dropped to alarming levels, and never totally recovered, though much improved at this stage, still not what they were.
- Serious health issues arising from excessive pollution
- Impact on specific health issues that we know are in my community
- Polluting the atmosphere to the point of not wanting to live here
- Killer air
- Cumulative damage to health of communities of the Upper Hunter
- Noise. Pollution. Trucks. Trains. 24 hours
- General health concerns especially for young, old and compromised individuals with air quality
- Dirty coal dust we are killing ourselves if we let this happen. Air is already terrible
- Community impact - e.g. air pollution, visual pollution
- My daughter in law constantly wheezes with her asthma now how would her health be if air quality declines even further
- Our concern on the air quality as now the health is being a worry to young children and aged people
- Respiratory illness from poor air quality. Dust and coal particle pollution increased.
- Air quality. Resulting illnesses.

- Deterioration in air quality increasing in the Upper Hunter. Health impacts are evident and documented
- Respiratory problems (asthma etc.) are already well documented in the Hunter. This mine will increase these medical issues.
- Health concerns. Statistics from Appalachian Mountains USA show correlation between mining/cancer/respiratory diseases
- Air quality - effects it will have on our daughter who has a congenital heart issue
- Been asthmatic. Air quality - asthmatic?
- Already coal-burning smells every week from power stations!

**ENDS**



## Specific Comments made relating to 'Environment' at Dartbrook Community Forum 7 April 2019

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- Already coal-burning smells every week from power stations!
- What control over gas emission will the company have? And combustion of seams?
- Climate Change and renewable energy in area
- Quality of life of residents resulting from environmental issues such as noise, congestion etc.
- Where is the scope for clean energy in Scone?
- Views across valley and along valley - trucks/cars/parking/road/vents/waste heaps. Threat of open cut mountain
- Trucks - too many on roads-no one will want to visit. Dangerous. Trains and trucks will be all you will be able to visit
- Views across and along valley seriously compromised by 1) Mod 7 2) by threat of open cut
- If open cut goes ahead I would like to move elsewhere but my house would be worth nothing
- Is there a definite need for this coal? i.e. Glencore cut back coal production - why?
- Loss of traditional Hunter Valley rural life due to proliferation of mines in recent times; can't keep increasing
- Impact on valley for future damage to trees, vegetation
- Climate emergency
- Loss of opportunity for expansion of environmental tourism in future
- Muswellbrook already one of two most polluted postcodes in Australia
- A new mine creates the optimism that climate change is not real and doesn't require immediate action
- No guarantee of rehabilitation post mining activity
- NOT sustainable as an underground mine. We know they will go open cut.
- What vegetative and rehab done to date? What provision for future
- How much noise will the CHPP generate, both in processing and loading trains
- Extra trains running on line. What noise abatement will be made for residents
- Effect on the environment
- Destruction of the aesthetics of the environment
- Noise and impact on nearby residents
- 6 MK per year underground. How much production open cut. What type of operation - truck and shovel or dragline
- Our area is beautiful and pristine. A mine and extra trucks will ruin this
- ?monitoring and regulatory inspections
- Restoration of all mines??? Does not convince us that Dartbrook will be different
- 192 truck movements per day - dust/noise/visual impact - NO
- Detract generally from natural beauty of area
- Environmental safety - effect on local communities and well being (noise, traffic, general pollution)
- If we don't look after the environment the planet will not support future generations. Coal mines, CO2 and methane is causing great harm to our environment

- Underground water. Dust. Noise. Increased release of greenhouse gases. Living quality. Communities destroyed. Health problems. Climate change.
- Hunter Valley was always referred to as "clean and green" - this image is vanishing but we could still save the Upper Hunter
- This mine is **too late**. The Upper Hunter should be saved from further pollution. The Hunter Valley has already suffered environmentally because of coal mines.
- P. 40 Dartbrook Annual Review 2017 - 52400 tonnes of CO2 equivalent gas via a shaft into atmosphere in 2017
- QUESTION TO APC - Why are you offering us money (1/4 of a percent) to the Upper Hunter Shire ???. This is an INSULT - is this a price you put on our environment and way of life
- Unwanted coal
- Climate change
- Noise
- Mine subsidence
- Water contamination/noise/pollution/increased rail and vehicle movements/tunnel under Hunter River/seepage into river
- Cumulative enviro impact of mining in the area
- Loss of habitat for wildlife
- Visual amenity of the region
- Damage to reputation of horse studs
- Change of visual aspect of hunter Valley - no trees/no green grass/no vineyards/no farms
- How can they justify compromising the ecology, environment, agricultural businesses, horse studs, dairy farms, our young people (Aberdeen has 3 schools) when Dartbrook mine itself has a problematic history of flooding, spontaneous combustion and gas solution.
- For the sake of 100 jobs, the company is willing to jeopardise the jobs and well being of thousands of other people i.e. industry, community, schools and agricultural tourism.
- With only 1.3km from Aberdeen with our prevailing southerly winds, Aberdeen will become a dust bowl.
- Noise pollution - noisy vehicles, intrusive lights, reverse alarms when coal are loading. This can be anytime of the day or night
- Water quality in tanks is being compromised
- Acid rain
- Loss of biodiversity in the Hunter River - nothing left but carp and a noticeable change in the river after Dartbrook started the last time.
- Train trucks - will increase coal train movements and why are coal wagons still not being covered
- We have the most polluted post code in NSW - two studies showed this. We need action - not further mines!
- What happens to the waste - non coal extracted. Is it piled on surface and then what?
- [Reduced opportunity for environmental tourism in the future - clean Upper Hunter](#)
- [Water table underground for agriculture and environment](#)
- [Sulphur/dust/noise/more trains/noise/quality of life](#)
- [What is the tipping point for our underground and above ground water supply. This should not be an experiment.](#)
- [Mine subsidence](#)
- [Noise of trains](#)

**ENDS**

## Specific Comments made relating to 'Water' at Dartbrook Community Forum 7 April 2019

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- Tunnel under Hunter River. Seepage into Hunter River causing further pollution. Rail, truck movements. Coal stockpile so close to Aberdeen. Dust across Aberdeen
- Effect on aquifer?
- Climate change. Planting trees to get more rain and water
- What is the status currently of the groundwater across the designated mining areas?
- Damage to water quality and supply that may be irreversible
- Polluting the water and probably ruining the water supply altogether
- Why does the company want to keep their washery licence?
- Seam breakage allowing underground water to escape
- Source for same? (washery) - NO to washeries
- Danger of filling bord and pillar with water which can seep into aquifers and river
- Water table underground for agriculture and environment
- Water table. Aquifers. Kingdon Ponds
- Underground water MOST valuable resource for ALL businesses - agriculture/viticulture/equine
- Water - this mine is making toxic water in care and maintenance
- Damage to water - Hunter River
- Water, Salinity. More salt from diffuse sources
- What does Dartbrook propose to do for those whose aquifers have or will be lessened due to their operations
- Overuse of water and effect on aquifers and the river
- Water - we are in drought. Water is used to extract and dampen the coal. Where is it coming from?
- Pollution of river/water table
- How much water will be used by mine? Water is a major concern as competition for it goes up - mining a very one way use of this resource
- The ongoing effect on the Hunter River that is already used by existing mines
- When my well runs dry who will bring me water each day in a truck
- Destruction of water quality
- How can we be assured/guaranteed there won't be a huge impact on the aquifer
- Can the Dartbrook guarantee there will be no impact on the aquifer?
- Our water is precious - we can't grow crops or water our stock without it. What will the effects be on aquifers and rivers
- Do not let our water be effected. Look after the farmers and horse studs
- Impact on farm irrigation water
- Where is the Environmental Impact Statement?
- Does the mining company have licence from Glenbawn Dam?
- Concern as to impact on water
- Coal washing?
- Dust from mine - settling on house rooves - washing into house tanks - quality of drinking water to household

- Where is the mine getting the water from to wet down the coal and to control the dust
- The Dartbrook mine will use water that the Upper Hunter CANNOT SPARE. Town supplies, irrigation, stock
- The effect of the mine on the water aquifers - irrigation, agriculture, available water for these.
- Where do they get and is it connected to wash the coal
- After just going through a drought and having trouble with underground water we don't need to lose any more to mines
- What is the tipping point for our underground and above ground water supply. This should not be an experiment.
- Effects on water table. Mine is located directly on top of the Hunter River and is high geographically in the catchment
- Potential for contamination of the water table
- Water aquifer
- Water discharge into the Hunter
- Drought - Mine - Where is the water?
- Water quality - coal dust on roofs washing into house tanks
- If proposed Dartbrook is to be part of the "Hunter River Salinity Trading Scheme", where will the salty water empty into the Hunter River? What heavy metals does it contain?
- How can you guarantee there will be no impact to groundwater again?
- Will farmers be compensated for any lack or shortage of water which might cause disruption to farming operations and production? Knowing full well that when the mine initially went into production around 1998 the existing water in the wells and bores dropped to alarming levels, and never totally recovered, though much improved at this stage, still not what they were.
- What will the company do with any existing water which is in the mine at the moment?
- Will the company use water from Glenbawn dam?
- The upper reaches of the valley are finding it extremely hard to find water to maintain stock and domestic water even though we have only been in drought for 3 years.
- In years gone by even with up to 10 years of drought with a major dairy industry of 400 dairies supplying OAK in Muswellbrook the majority of which drew their water supply from the underground water supply. Not so now
- We have big players i.e. Mt Arthur North, Bengalla, Mt Pleasant which also draw water from the same source.
- It is a fact that water collects at the lowest point, flowing downhill in this case that collection point underground sump is traditionally around Dartbrook mine and because Dartbrook mine is deeper than the aquifer it is draining away the water which will restrict the use of water for agriculture and domestic purposes.
- What will the company do with any existing water which is in the mine at the moment?
- What type of irrigation licenses do you have? (e.g. high security / general security) and what is your total allocation? High security licenses equate to three times the volume of general security general so if you have 2000ML that could be the equivalent of 6000ML... more than what's used by the whole Pokolbin PID.
- Do your dams and ponds overflow in heavy rain and where does that water go?
- [Interruption to aquifers and supply. Impact on water availability to established farming businesses](#)
- [Competition for water between miners and agriculture](#)

- Destruction of water resources on the river flats is criminal
- This mine is proposed in one of the Upper Hunter's rare farming irrigation basins. We are open to mining. Mining needs to respect agriculture and our future.
- Water, air impacts on agriculture
- Dangers of air and water pollution to farms and town
- The valley is at its narrowest and all the water meets there. WRONG place for a mine. **Same problem 1920's - mine failed**
- Can they restart washery if needed?
- Flooding of mine
- Acid rain
- On the basis of megalitres/tonne of coal, how much water will be required
- If proposed Dartbrook is to be part of the "Hunter River Salinity Trading Scheme", where will the salty water empty into the Hunter River?
- Water and management if washed
- Water contamination/noise/pollution/increased rail and vehicle movements/tunnel under Hunter River/seepage into river
- Water quality in tanks is being compromised

**ENDS**

## Specific Comments made relating to 'Air' at Dartbrook Community Forum 7 April 2019

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- There is too much gas CO2 and methane in this mine. Dangerous locally and globally
- Air Quality - how will the mine manage release of toxic gases and its dissemination across the valley?
- Serious health issues arising from excessive pollution
- Impact on specific health issues that we know are in my community
- Polluting the atmosphere to the point of not wanting to live here
- Gas vents. Tell us what is planned. I heard there will be concrete vents - pipes? What gases enter air?
- Scone smells. Sulphur from the power station 35km away. Same Direction plus spon. Com This is 10km and poor Aberdeen
- We need more trees in the Upper Hunter for air and water. Coal is a stupid short term industry. We have 12 years to bring the temperatures under control or we wont have any earth to inhabit. All scientist are in agreement that we have to reduce emissions, plant trees
- Dust - prevailing winds up valley
- Air quality has plummeted in the last few years - proliferation of open cut
- Pollution x 192 B double truck movements
- Killer air
- Cumulative damage to health of communities of the Upper Hunter
- Noise. Pollution. Trucks. Trains. 24 hours
- Our air quality - These trucks will be adding PM 2.5's + PM10's Unwashed coal
- Next to CO2 methane has been identified as a major contributor to greenhouse gases
- The history of Dartbrook mine indicates a high level of methane in the coal seam. How will new operations deal with the methane issue?
- General health concerns especially for young, old and compromised individuals with air quality
- Train fumes increase on already bad levels. What will be done about this?
- Worried about adding to already poor air quality
- 11 hours a day of B doubles!
- The air quality is already terrible. This will only increase the amount of air pollution.
- Air quality is already really bad - this will make it worse
- Dirty coal dust we are killing ourselves if we let this happen. Air is already terrible
- Grave concerns re air quality deterioration - already exceeding safe levels of pollution
- Community impact - e.g. air pollution, visual pollution
- My daughter in law constantly wheezes with her asthma now how would her health be if air quality declines even further
- Muswellbrook looks like there is a fire around but it's the dust in the air. What does that do to our lungs. We do not want in our area
- Our concern on the air quality as now the health is being a worry to young children and aged people

- Respiratory illness from poor air quality. Dust and coal particle pollution increased.
- Air quality. Resulting illnesses.
- Uncovered - transport of coal by B double
- Air quality - consequent health of the community and farm animals
- Is the EPA monitoring and is there a response?
- Deterioration in air quality increasing in the Upper Hunter. Health impacts are evident and documented
- Air quality
- More mine approvals impact on our ability to meet the Paris Accord commitments
- What Environmental Air Statement on air has been presented?
- We live in Wingen. Our air quality is impacted by Hunter Valley mining and coal carrying trains. Our fresh water tank is polluted by coal dust. Black dust is evident in our house every day. This additional mine will only increase air, dust and visual pollution in the Upper Hunter
- Respiratory problems (asthma etc.) are already well documented in the Hunter. This mine will increase these medical issues.
- Air monitoring shows our air is not clean and the EPA seems powerless to regulate the mines
- Clean air is a basic human right. Hunter Valley air is NOT clean. This mine will make it worse.
- Doctors for The Environment - concerned about air quality causing respiratory problems
- More coal from this mine = more uncovered coal trains = more dust for Aberdeen = more respiratory illnesses
- We are not a third world country - our air should be clean
- Our verandah (in Wingen) is always coated with fine black dust, especially when the wind is from the south
- I smell the coal mines at Wingen (Wingen South)
- Bad air
- Health concerns Statistics from Appalachian Mts USA Show correlation between mining/cancer/respiratory diseases
- Air quality is already poor from mines without making it worse
- Air quality - effects it will have on our daughter who has a congenital heart issue
- What type of B double can carry 60 tonne - air quality
- Sulphur contact
- Dust from trucks
- Diesel pollution from trucks
- Been asthmatic. Air quality - asthmatic?
- Sulphur pollution affecting the quality of air on days of heavy pollution
- The layers of dust hang over the valley on most days and can be clearly seen from the air
- Air quality and dust
- How much methane will you discharge when operational? Will it be different under bord and pillar?
- What control over gas emission will the company have? And combustion of seams?
- Effect of gas on animals
- Dust problem affecting crops, animals, dust on lucerne, crops and rain
- Dust on natural pastures - effect on grazing animal long term/unknown - health



- Water, air impacts on agriculture
- Dangers of air and water pollution to farms and town
- Gas biggest issue. What makes them think they can manage that better?
- Very concerned re open carriages of coal passing through towns
- P. 40 Dartbrook Annual Review 2017 - 52400 tonnes of CO2 equivalent gas via a shaft into atmosphere in 2017
- With only 1.3km from Aberdeen with our prevailing southerly winds, Aberdeen will become a dust bowl.
- Dust from the ventilation shafts
- Train trucks - will increase coal train movements and why are coal wagons still not being covered

**ENDS**

## Specific Comments made relating to 'Other' at Dartbrook Community Forum 7 April 2019

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### *Planning / Future*

- Planning Department weighted against communities
- How do you see it co-existing with the Horse Capital?
- Coal is on the way out
- Look to future (away from coal) start up alternate energy generation, bring more people in to broaden the thought process on these industries
- There is no reason to continue with mining - COAL is finished and we need to transition jobs now
- Point of difference with the Upper Hunter community - ongoing employment in a variety of industries, an interesting accessible place for people to live and bring up families away from existing mines
- Impact on other industry - UH Tourism is clean, green, ag/eco focussed
- Tourism becoming more important to local community
- Scottish heritage re farming. Iconic Aussie history
- Future work prospects - we need land, water and clean air to ensure next generations have something to do - coal power will not be here forever
- Coal will die out but so will our community save our Upper Hunter
- Don't let our area end up like Muswellbrook open your eyes
- Rebranding Scone. Trying to make Scone a destination by itself (+Aberdeen) spending millions then having all that work destroyed by mine.
- This proposal is a slippery slope towards an opencut mine proposal
- Thinking ahead transfer to alternative energy. Can't we use these sites?
- We have some of the best agricultural land in Australia - our future. How is it guaranteed?
- No long term future for jobs
- Stalking horse for open cut
- Imbalance of industry in Hunter Valley TOO much mining
- You say you're not interested in open cut any more... why is it still on your website? Why won't you give a guarantee?
- Expansion of ? To O/C
- [Farming has a long term future. Coal mining is short term.](#)
- [This mine is proposed in one of the Upper Hunter's rare farming irrigation basins. We are open to mining. Mining needs to respect agriculture and our future.](#)
- [Reduced opportunity for environmental tourism in the future - clean Upper Hunter](#)
- [Start building solar farms instead](#)
- [Where is the scope for clean energy in Scone?](#)
- [Views across and along valley seriously compromised by 1\) Mod 7 2\) by threat of open cut](#)
- [If open cut goes ahead I would like to move elsewhere but my house would be worth nothing](#)

- NOT sustainable as an underground mine. We know they will go open cut.
- Is there a definite need for this coal? i.e. Glencore cut back coal production - why?
- I bought a property in the Upper Hunter Shire where no mines were to be open cut
- Will they guarantee they will not go open cut?
- Hunter Valley was always referred to as "clean and green" - this image is vanishing but we could still save the Upper Hunter
- This mine is **too late**. The Upper Hunter should be saved from further pollution. The Hunter Valley has already suffered environmentally because of coal mines.
- Unwanted coal
- This is not setting Upper Hunter up for a sustainable future. It is raping the country for profit

### *Economics*

- Damaging effect on property values
- Property values will be affected
- When coal prices go down (as they have in the past) will mine be moth balled again? What happens to the employees then?
- Concern re real estate prices, given the real estate in Muswellbrook (surrounded by mines)
- Valuation of our land and property going DOWN
- Employment of workers outside the area - money going out of the district
- If the project is not successful where do the 70 employees go?
- Have you any contracts pending if you produce the COAL
- What is the budget allowed to start and run this mine
- What's more important money or our community once the damage is done it's too late
- 65% of workers in Upper Hunter don't live in the communities - Singleton traffic concerns
- Hard to promote the valley with another mine
- Tourism - narrowing the Upper Hunter
- How will you ensure that the jobs are local?
- What compensation will you provide to farmers whose wells go dry? To impacted residents in the town? To other impacted industries?
- How will farming growth and consolidation be assured
- Future industries for when the mines finish need to be protected
- Tourism (\$, jobs) in Upper Valley - entire impression of valley from road and rail, despoiled
- Loss of diversity in community with potential loss of other industries
- Out of area workers getting jobs NOT displaced locals
- Mining towns push out lower income families-rents increase/housing demand/cost of living goes up
- Jobs -it is well documented that mining proponents always overestimate the number of jobs. It is apparent and evident that many more workers travel from Lower Hunter
- Trucks - too many on roads-no one will want to visit. Dangerous. Trains and trucks will be all you will be able to visit (impact on tourism)
- Belief that we need this mine and others like it for jobs
- We need this mine to keep our local businesses going

- QUESTION TO APC - Why are you offering us money (1/4 of a percent) to the Upper Hunter Shire ???. This is an INSULT - is this a price you put on our environment and way of life
- Loss of opportunity for expansion of environmental tourism in future
- Damage to reputation of horse studs
- How can they justify compromising the ecology, environment, agricultural businesses, horse studs, dairy farms, our young people (Aberdeen has 3 schools) when Dartbrook mine itself has a problematic history of flooding, spontaneous combustion and gas solution.
- For the sake of 100 jobs, the company is willing to jeopardise the jobs and well being of thousands of other people i.e. industry, community, schools and agricultural tourism.
- Future industries for when the mines finish need to be protected

### *Rehabilitation*

- Once the damage is done it can't be repaired. Look at Muswellbrook.
- Not the right mine for an inexperienced proponent!
- No evidence that this company can afford start up, safe operations and then proper shutdown and reinstatement. \$9M BOND WILL NOT COVER IT!
- Rehabilitated land never returned to pre-mining state. Never gallop a horse and underground water damaged
- What will be the full cost to remediate this mine when you close it?
- The mine will threaten and destroy river flats which will be lost forever. "rehabilitation" doesn't work - STRONGLY AGREE WITH THIS
- Restoration of all mines??? Does not convince us that Dartbrook will be different
- No guarantee of rehabilitation post mining activity

### *Proponent*

- The reason it closed before was due to gas - how will that not be a problem this time? - open cut?
- If he was one of your students I doubt you would award a higher grade than a D for competence. I would be looking for actual evidence for each statement
- What are the modern technologies you talk about that will allow you to manage the gas and spontaneous combustion issues that Anglo couldn't?
- Is the rail loop long enough for 90 carriage trains or will you be loading from the main line?
- Is the nitrogen injection plant still in place? We heard it was removed.
- What mines does your proposed JV partner currently operate? You mentioned they are operating underground mines in America?
- Claims he isn't interested in open cut. Not what he was telling his investors in November. Sounds like a ploy.

### *Climate change*

- Global warming - well over 90% of climate scientists know that global warming is caused by fossil fuel burning and mining. As a responsible nation we should be leading the world in transitioning away from coal mining

- There is no Planet B
- Leave all fossil fuels in the ground
- IPCC say we must stay below two degrees Celsius increase before 12 yrs (2030). This is conservative.
- We have to meet Paris 15 Accord commitments
- Tipping points have been reached
- Time of climate change CO2 and methane
- Climate Change and renewable energy in area
- How have you quantified your greenhouse gas emissions?
- If they rejected "Rocky Hill" on account of climate change surely with the amount of methane (which killed workers) produced by Dartbrook, it should also be rejected for same reason.
- Our carbon budget is almost used up
- Climate change - this carbon is already sequestered
- Climate emergency
- A new mine creates the optimism that climate change is not real and doesn't require immediate action
- If we don't look after the environment the planet will not support future generations. Coal mines, CO2 and methane is causing great harm to our environment
- Underground water. Dust. Noise. Increased release of greenhouse gases. Living quality. Communities destroyed. Health problems. Climate change.
- Climate change
- We need more trees in the Upper Hunter for air and water. Coal is a stupid short term industry. We have 12 years to bring the temperatures under control or we wont have any earth to inhabit. All scientist are in agreement that we have to reduce emissions, plant trees
- Next to CO2 methane has been identified as a major contributor to greenhouse gases
- More mine approvals impact on our ability to meet the Paris Accord commitments
- What future for generations to come if we keep on digging up their land
- How will future generations judge us and how are their needs being considered?
- If we don't look after the environment the planet will not support future generations. Coal mines, CO2 and methane is causing great harm to our environment
- The I.Q. of our children is continuing to be compromised now - what can we expect from this ongoing invasion.

**ENDS**

## Appendix 2: Forum Agenda

### Agenda – Friends of the Upper Hunter Dartbrook Community Forum Aberdeen RSL Club 6pm for 6.30pm Sunday 7 April 2019

Item	Topic and description	Who	Time
1	Welcome address	Les Parsons	5 mins
2	Who is Friends of the Upper Hunter	Doug Robertson (Chair)	3 mins
4	<p><b>Overview of the proposal</b></p> <ul style="list-style-type: none"> <li>- <b>Brief history of Dartbrook:</b> <ul style="list-style-type: none"> <li>o Original investigations for opencut 1980s</li> <li>o Opened as an underground 1990</li> <li>o Modified 1999-2001</li> <li>o Subsequent mods until mothballing in 2006</li> <li>o Care and Maintenance since 2006</li> <li>o Sale to Tinkler et al 2017</li> <li>o Proposal lodged for underground 2018</li> <li>o Separate prefeasibility study for future opencut released March 2018</li> </ul> </li> <li>- <b>The proposed modification:</b> <ul style="list-style-type: none"> <li>o Method of mining</li> <li>o Transport of coal</li> <li>o Unwashed coal</li> <li>o Extension in time</li> <li>o Not waiving existing approval of tonnage, longwall or washery</li> <li>o No of jobs</li> <li>o VPA</li> <li>o Reinstatement</li> </ul> </li> <li>- <b>Broad concerns in brief.</b></li> </ul>	Kirsty O’Connell, Committee Member, Friends of the Upper Hunter	10 mins
5	<p><b>How and when to have your say</b></p> <ul style="list-style-type: none"> <li>- <a href="http://www.nodartbrook.com">www.nodartbrook.com</a></li> <li>- <b>Written forms</b></li> <li>- <b>Confidentiality</b></li> <li>- <b>Dates</b> <ul style="list-style-type: none"> <li>o <b>9 April Independent Planning Commission Meeting.</b> Applications to speak have closed but please attend and show your interest.</li> <li>o <b>ASAP and ideally by 9 April</b></li> <li>o <b>Submissions to <a href="http://www.nodartbrook.com">www.nodartbrook.com</a> or postal.</b></li> </ul> </li> </ul>	Kirsty	2 mins

	<ul style="list-style-type: none"> <li>○ There will be some leeway to 16 April but encourage everyone to get their submissions in early</li> <li>○ Assume during April, Planning Commission makes decision.</li> </ul>		
<b>6</b>	<b>Consultation</b> <ul style="list-style-type: none"> <li>- Break into tables</li> <li>- Participants to note comments, questions and concerns by theme</li> <li>- FOTUH members to facilitate</li> </ul>	<b>Kirsty O’Connell</b>	<b>45 mins</b>
<b>7</b>	<b>Q&amp;A session</b> <ul style="list-style-type: none"> <li>- Impromptu Q&amp;A at the request of APC’s John Robinson Jnr</li> </ul>	<b>CEO John Robinson Jnr</b>	<b>30 mins</b>
<b>8</b>	<b>Summary</b> <ul style="list-style-type: none"> <li>- Reiterate how and when to have your say <ul style="list-style-type: none"> <li>○ 9 April Independent Planning Commission Meeting</li> <li>○ 16 April written submissions close</li> <li>○ (<a href="http://www.nodartbrook.com">www.nodartbrook.com</a> or postal) but encourage everyone to get their submissions in early</li> </ul> </li> <li>- Invite people who’d like assistance with a submission to stay and get help.</li> </ul>	<b>Table representatives</b>	<b>15 mins</b>
<b>9</b>	<b>Close</b>		
<b>10</b>	<b>Members of FOTUH assist anyone who needs it with their submission (laptops available).</b>		<b>1 hr max</b>



## Appendix 3: Questions on Notice from Community to Australian Pacific Coal CEO

FOTUH provided the following list of questions to John Robinson Jnr on Wednesday 10 April and posted the list at [www.nodartbrook.com](http://www.nodartbrook.com) Despite his agreement to have responses back before submissions closed, this did not happen. FOTUH respectfully suggests that the Commissioners may also be interested in the answers to some of these questions.

1. What type of irrigation licenses do you have? (e.g. high security / general security) and what is your total allocation?
2. How can you guarantee there will be no impact to groundwater again?
3. What compensation will you provide to farmers whose wells go dry? To impacted residents in the town? To other impacted industries?
4. How have you quantified your greenhouse gas emissions?
5. What guarantees can you provide for the safety of staff working at your mine?
6. What mines does your proposed JV partner currently operate? You mentioned they are operating underground mines in America?
7. Are you proposing that you might want to restart the washery in the future?
8. If proposed Dartbrook is to be part of the "Hunter River Salinity Trading Scheme", where will the salty water empty into the Hunter River? What heavy metals does it contain?
9. How much methane will you discharge when operational? Will it be different under bord and pillar?
10. Is the nitrogen injection plant still in place? We heard it was removed.
11. Is the rail loop long enough for 90 carriage trains or will you be loading from the main line?
12. What time will trains be arriving to load? Have you had any indication of time slots?
13. What are the modern technologies you talk about that will allow you to manage the gas and spontaneous combustion issues that Anglo couldn't?
14. Is bord and pillar a safer way of mining?
15. If it has been an issue with safety what will the extent of modification be to ensure miners well being?
16. Do your dams and ponds overflow in heavy rain and where does that water go?
17. What will the company do with any existing water which is in the mine at the moment?
18. How will you ensure that the jobs are local?
19. You say you're not interested in open cut any more... why is it still on your website? Why won't you give a guarantee?
20. What control over gas emission will the company have? And combustion of seams?
21. What will be the full cost to remediate this mine when you close it?
22. What evidence do you have that the bord & pillar operation will be safe if we experience more earthquakes like we experienced in Muswellbrook in recent years?



Australian Government



BIOREGIONAL  
ASSESSMENTS

PROVIDING SCIENTIFIC WATER RESOURCE  
INFORMATION ASSOCIATED WITH COAL  
SEAM GAS AND LARGE COAL MINES

# Assessing impacts of coal resource development on water resources in the Hunter subregion: key findings

Product 5: Outcome synthesis for the Hunter subregion from the Northern Sydney Basin Bioregional Assessment

2018



A scientific collaboration between the Department of the Environment and Energy,  
Bureau of Meteorology, CSIRO and Geoscience Australia

# Hunter assessment at a glance

This bioregional assessment considered the potential cumulative impacts on water and water-dependent assets due to 22 additional coal resource developments in the Hunter subregion in NSW (Figure 1). The assessment is a regional overview of potential impacts on, and risks to, water-dependent ecological, economic and sociocultural assets, identifying where potential changes in water resources and ecosystems may occur, and ruling out areas where impacts are *very unlikely*. Governments, industry and the community can then focus on the areas that are potentially impacted and apply local-scale modelling when making regulatory, water management and planning decisions.

## HEADLINE FINDING

**Regional-scale modelling indicates potential risks to Wyong River, Loders Creek, Saddlers Creek and Wollars Creek. Using more detailed local information significantly reduced modelled risk to the Wyong River. Other streams were not modelled using local data.**



**Groundwater:** An area of 1879 km<sup>2</sup> potentially experiences cumulative groundwater impacts due to baseline and additional coal resource developments. See page 11



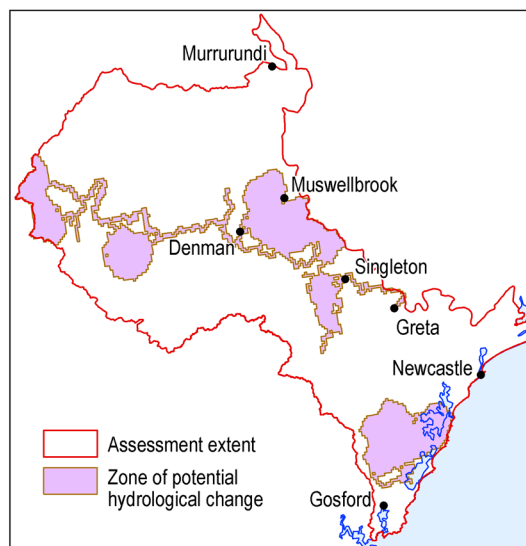
**Surface water:** Regional-scale modelling indicates potentially large changes in flow regime in Wyong River, Loders Creek, Saddlers Creek and Wollars Creek. See page 15



**Ecosystem impacts:** The zone of potential hydrological change includes 102 km<sup>2</sup> of groundwater-dependent ecosystems – predominantly rainforests, forested wetlands, and wet and dry sclerophyll forests. See page 18



**Asset impacts:** Reductions in water availability in the Hunter River at Greta are *very likely* to exceed 5 GL per year, but are *very unlikely* to exceed 12 GL per year, over the period from 2013 to 2042. See page 24



**Figure 1 The zone of potential hydrological change**

The pink zone (defined further in Box 4) was developed to show where efforts to identify potential impacts should be focused. Impacts are ruled out in areas outside this zone, which combines:

- the area with at least a 5% chance of exceeding 0.2 m drawdown due to additional coal resource development
- the area with at least a 5% chance of exceeding changes in specified surface water characteristics that arise due to additional coal resource development.

Data: Bioregional Assessment Programme (Dataset 1)

## BASELINE COAL RESOURCE DEVELOPMENTS (BOX 1)



42 x mines, 0 x CSG

## ADDITIONAL COAL RESOURCE DEVELOPMENTS (BOX 1)



22 x mines, 0 x CSG

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## CITATION

Herron NF, Macfarlane C, Beringen H, Brandon C, Schmidt RK, Post DA, Henderson BL, McVicar TR, Lewis S and Buettikofer H (2018) Assessing impacts of coal resource development on water resources in the Hunter subregion: key findings. Product 5: Outcome synthesis for the Hunter subregion from the Northern Sydney Basin Bioregional Assessment. Department of the Environment and Energy, Bureau of Meteorology, CSIRO and Geoscience Australia, Australia. <http://data.bioregionalassessments.gov.au/product/NSB/HUN/5>.

## COVER PHOTOGRAPH

© Google earth (2015), Sinclair Knight Merz Imagery date 16 December 2008. Position 32°17'58" S, 150°48'51" E, elevation 136 m, eye altitude 1.59 km v20180522

Throughout this synthesis, the term '*very likely*' is used where modelling predicts a greater than 95% chance of something occurring, and '*very unlikely*' is used where modelling predicts a less than 5% chance (Box 5).



# Executive summary



## About the subregion *see page 3*

The Hunter subregion is part of the Northern Sydney Basin bioregion and includes the major coastal cities of Newcastle and Gosford-Wyong (Figure 2). It is known for its coal mining, power generation, equine and viticulture industries. It includes two Ramsar-listed wetlands and contains part of the Greater Blue Mountains World Heritage Area. The total area investigated for this assessment (the **assessment extent**) is the same as the subregion extent, which covers 17,045 km<sup>2</sup>.



## Potential hydrological changes *see page 11*

Regional-scale hydrological modelling identified changes in groundwater and streamflow due to coal resource development for two futures (Box 1). The **baseline** future comprises 42 mines (22 open-cut and 20 underground) that were operating in December 2012. The **coal resource development pathway** (Box 1) was the most likely future for the subregion (as of September 2015) and includes the baseline developments plus 22 **additional coal resource developments**: 4 new open-cut mines, 2 new underground mines and 16 expansions to existing operations. Surface water and/or groundwater modelling were not undertaken for a small number of these developments. No coal seam gas (CSG) developments exist or are proposed in the subregion.

Additional coal resource development could lead to 19% of the assessment extent experiencing hydrological changes that exceed defined thresholds (Box 4). Outside this **zone of potential hydrological change**, hydrological changes are not significant, and hence impacts are *very unlikely* (less than 5% chance).

Modelling indicates potentially large changes in flow regime in Wyong River, Loders Creek, Saddlers Creek, Wollar Creek and a number of ephemeral creeks (Figure 12). Fourteen percent, or 2441 km<sup>2</sup>, of the assessment extent has at least a 5% chance of greater than 0.2 m drawdown in the regional watertable due to additional coal resource development. Modelling of the Wyong River using local-scale data indicates that large changes in the flow regime are unlikely in that river.



## Potential impacts *see pages 18 and 24*

The two Ramsar-listed wetlands are outside the zone of potential hydrological change and so are *very unlikely* to be impacted. Potentially impacted ecosystems in the zone include 102 km<sup>2</sup> of groundwater-dependent ecosystems (GDEs) (predominantly rainforests, forested wetlands, and wet and dry sclerophyll forests), and 634 km of perennial and 518 km of intermittent streams.

Modelled changes in ecologically important flows indicate a higher risk to the condition of riverine forested wetlands along the Goulburn River compared to other riverine forested wetlands in the subregion.

Changes in water availability in the Hunter Regulated River at Greta are *very likely* (greater than 95% chance) to exceed 5 GL per year, but *very unlikely* to exceed 12 GL per year, over the period 2013 to 2042.

Drawdowns exceeding 2 m due to additional coal resource development are *very likely* for 13 bores. The number of water supply bores where drawdown exceeds 2 m is *very unlikely* to be more than 170. Under the *NSW Aquifer Interference Policy*, 'make good' provisions could apply to licensed water holders affected by drawdowns of greater than 2 m. More detailed site-specific studies are needed to review the predicted changes in areas where regional-scale modelling indicates a high probability of large drawdowns.

Almost 140 km<sup>2</sup> of the Greater Blue Mountains World Heritage Area is within the zone but most is not predicted to be impacted because it supports vegetation that does not depend on groundwater. About 1.5 km<sup>2</sup> of forested wetland in this World Heritage Area could be affected by drawdown due to additional coal resource development.

### Box 1 Investigating two futures

Results are reported for two potential futures:

- **baseline coal resource development (baseline)**: a future that includes all coal mines that were commercially producing as of December 2012
- **coal resource development pathway**: a future that includes all coal mines that are in the baseline as well as the **additional coal resource development** (those developments that were expected to begin commercial production after December 2012, including expansions of baseline operations).

The difference in results between the coal resource development pathway and baseline is the change that is primarily reported in a bioregional assessment. This change is due to additional coal resource development.

The coal resource development pathway for the Hunter subregion was based on information available as of September 2015. However, coal resource developments may change over time or be withdrawn (e.g. in February 2017, the NSW Planning and Assessment Commission rejected the Drayton South Coal Project for the fourth time), or timing of developments may change. Factors such as climate change or land use were held constant between the two futures. Although actual climate or land use may differ, the effect on results is expected to be minimal as the assessment focused on the difference in the results between the coal resource development pathway and baseline.

# Explore this assessment

Bioregional assessments are independent scientific assessments of the potential cumulative impacts of CSG and coal mining developments on water resources and water-dependent assets such as rivers, wetlands and groundwater systems. These regional-scale assessments focus on 13 areas across Queensland, NSW, Victoria and SA where coal resource development is taking place, or could take place.

The assessments rule out areas where impacts on water resources and water-dependent assets are *very unlikely* (a less than 5% chance). The zone of potential hydrological change (Box 4) identifies where potential impacts cannot be ruled out. Because the models were developed for regional-scale assessments, they do not represent local-scale features, such as local aquitards. Thus results from bioregional assessments flag potentially impacted areas where governments, industry and the community may need to focus their attention and apply local-scale modelling when making regulatory, water management and planning decisions. This may result in substantially lower risks than those predicted by the regional data and models used in bioregional assessments.

The assessments investigate:

- the characteristics of the subregion, including water resources, assets, and coal and CSG resources (Component 1)
- how future coal resource development could affect surface water and groundwater (Component 2)
- how hydrological changes could impact on water-dependent ecosystems and assets (Component 3 and Component 4).

The full suite of impacts on water quality is not assessed, but the potential for changes in stream salinity is considered in light of the modelled hydrological changes, salinity hazard mapping and existing regulation and management.

The assessment of the **Hunter subregion**, which is part of the Northern Sydney Basin Bioregional Assessment, is reported in 12 technical products (Box 2), which are summarised in this synthesis.

## FIND MORE INFORMATION

[www.bioregionalassessments.gov.au](http://www.bioregionalassessments.gov.au) includes all technical products as well as information about all datasets used or created, most of which can be downloaded from [data.gov.au](http://data.gov.au). Additional resources are listed in this synthesis, and include methodologies, maps, models and lists of water-dependent assets, ecosystems and potential hazards. Users can visualise where potential impacts might occur using a map-based interface in the BA Explorer, at [www.bioregionalassessments.gov.au/explorer/HUN](http://www.bioregionalassessments.gov.au/explorer/HUN). References, further reading and datasets are listed at the end of this synthesis.

## Box 2 Technical products for the Hunter subregion

### Component 1: Contextual information

- 1.1 Context statement
- 1.2 Coal and coal seam gas resource assessment
- 1.3 Description of the water-dependent asset register
- 1.5 Current water accounts and water quality
- 1.6 Data register

### Component 2: Model-data analysis

- 2.1-2.2 Observations analysis, statistical analysis and interpolation
- 2.3 Conceptual modelling
- 2.5 Water balance assessment
  - 2.6.1 Surface water numerical modelling
  - 2.6.2 Groundwater numerical modelling
- 2.7 Receptor impact modelling

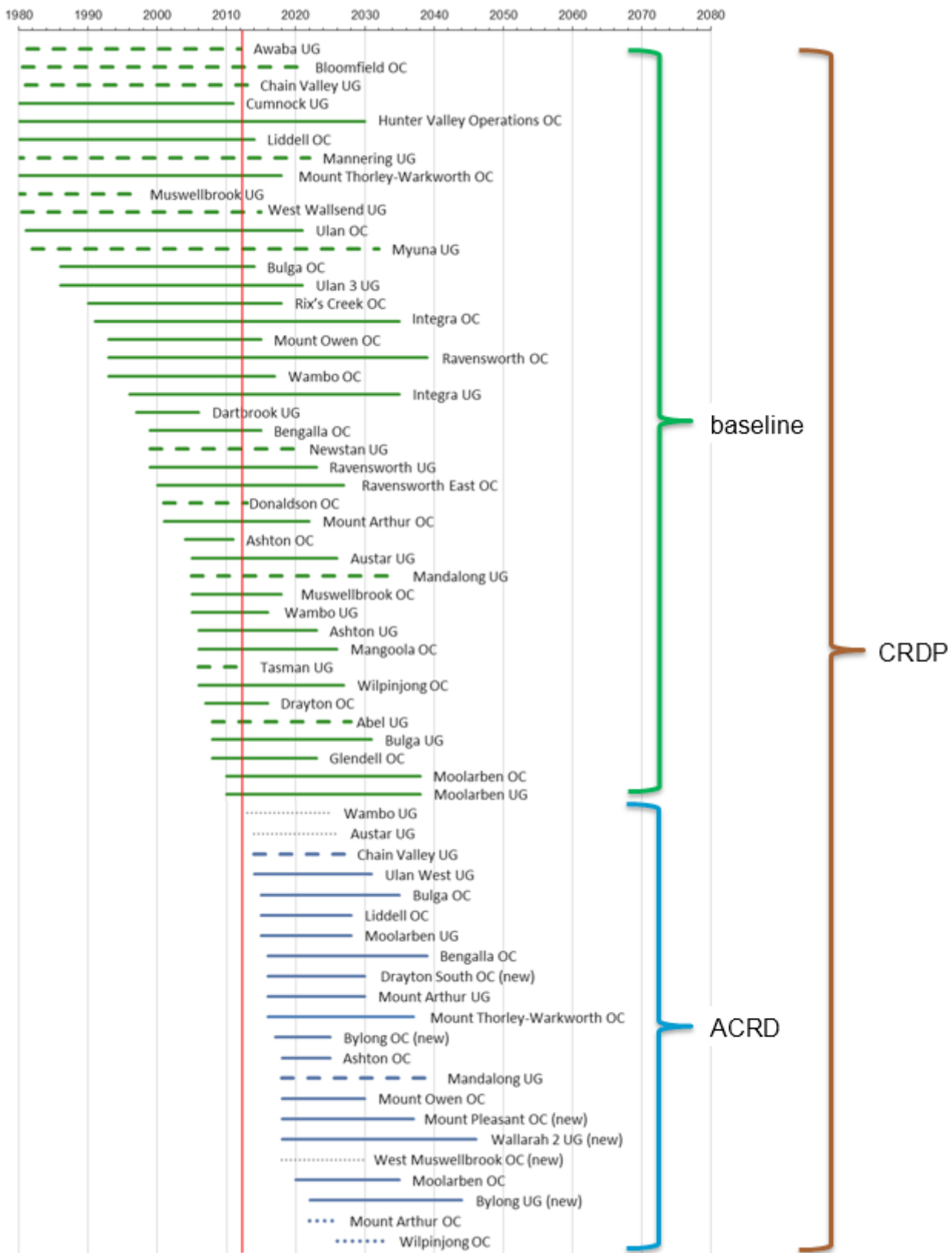
### Component 3 and Component 4: Impact and risk analysis

- 3-4 Impact and risk analysis

The pages of this synthesis follow this colour guide when describing the assessment outputs. Product 1.4 (receptor register) and product 2.4 (two- and three-dimensional visualisations) were not produced for any bioregional assessment as evolution of the methods rendered them obsolete.

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**Figure 3 Timeline for coal resource developments in the coal resource development pathway**

green = baseline as at December 2012, blue = additional coal resource development as of September 2015, red line = December 2012, light grey = not modelled, blue or green dashes = groundwater model only, blue dots = surface water model only, OC = open-cut, UG = underground

The dates reflect the expected period of coal extraction and may not coincide precisely with the dates used for mine pumping in the modelling. Mines in the coal resource development pathway include baseline and additional coal resource developments (ACRD).

Data: Bioregional Assessment Programme (Dataset 5)



# What are the potential hydrological changes?

Potential hydrological changes due to additional coal resource development were modelled using regional-scale surface water and groundwater models. Potential impacts due to additional coal resource development are limited to the zone of potential hydrological change (Figure 1 and Box 4).

**Key finding 2:** The zone of potential hydrological change covers an area of 3213 km<sup>2</sup> (19% of the assessment extent) and includes 1228 km of streams (8% of streams in the assessment extent).

## Groundwater

**Key finding 3:** The area with at least a 5% chance of at least 0.2 m of drawdown is 2441 km<sup>2</sup> for additional coal resource development (Figure 8) and 4307 km<sup>2</sup> for the baseline (Figure 9). The area of overlap (1879 km<sup>2</sup>) potentially experiences cumulative groundwater impacts due to baseline and additional coal resource developments.

Results from regional-scale groundwater modelling indicate that drawdown (Box 3) of greater than 0.2 m due to the additional coal resource development in the subregion is *very likely* to occur at distances of up to 5 km from mine sites and *very unlikely* to occur at distances exceeding 20 km.

Groundwater model results indicate that additional drawdown greater than 5 m is *very likely* at Bylong, Mandalong, Ulan and Mount Arthur mine sites (Figure 17 and Figure 19 in Herron et al. (2018c)). Additional drawdown exceeding 5 m has at least a 50% chance of occurring at the Wallarah 2, Drayton South and Moolarben mine sites. Incorporating local-scale hydrogeological information into the analysis for the Wallarah mine 2 (which was carried out for only this mine) substantially reduced the risk of drawdown exceeding 5 m due to additional coal resource development (see Section 3.3 and Section 3.7 in Herron et al., 2018c).

The year of maximum groundwater change varies throughout the Hunter subregion. It most likely occurs during the decades after mining activity ceases, and occurs later with increasing distance from mine tenements.

Around West Muswellbrook, Wambo and Wilpinjong mines, which were not represented in the groundwater model, the modelled drawdowns could be underpredicted.

### Box 4 The zone of potential hydrological change

A **zone of potential hydrological change** (Figure 1) was defined to rule out potential impacts. It was derived by combining the **groundwater zone of potential hydrological change** with the **surface water zone of potential hydrological change** (see Figure 15 and Figure 16 in Herron et al. (2018c)).

The groundwater zone is the area with at least a 5% chance of greater than 0.2 m drawdown (Box 3) due to additional coal resource development. This threshold is consistent with the most conservative minimal impact thresholds in NSW state regulations (which apply to Great Artesian Basin aquifers). Although this threshold does not apply in the Hunter subregion, it was applied here for consistency with other subregions in the Bioregional Assessment Programme. The groundwater zone was defined by changes in the regional watertable from which most ecological assets source water.

The surface water zone includes the streams with a change exceeding the defined threshold in at least one of nine surface water **hydrological response variables** (see Table 6 of Herron

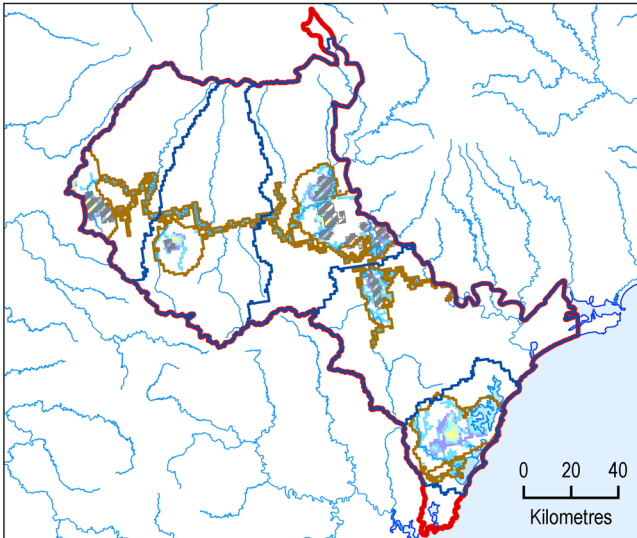
et al. (2018c)). The hydrological response variables represent different characteristics of the flow regime that could change due to coal resource development – for example, the annual flow volume or number of low-flow days. Changes in these variables could lead to impacts in ecosystems.

The zone of potential hydrological change defined where the impact and risk analysis focused (Herron et al., 2018c). Where the regional-scale modelling identified areas as potentially at risk of impacts, local-scale information is needed to better resolve the assessment of impact and risk to inform the management response.

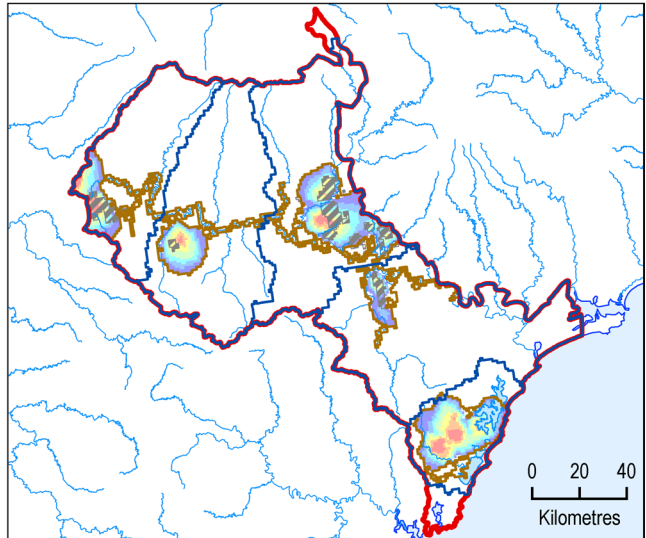
Not all mines in the CRDP were included in the surface water and/or groundwater modelling (Figure 3). The potential hydrological changes from these developments are considered in the impact and risk analysis (Herron et al., 2018c). The inclusion of modelled hydrological changes from these developments would likely expand the zone of potential hydrological change in some areas and/or increase already modelled changes.



95% chance of exceeding



5% chance of exceeding

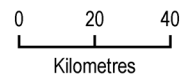


50% chance of exceeding



HUN-500-005

Additional drawdown (m)

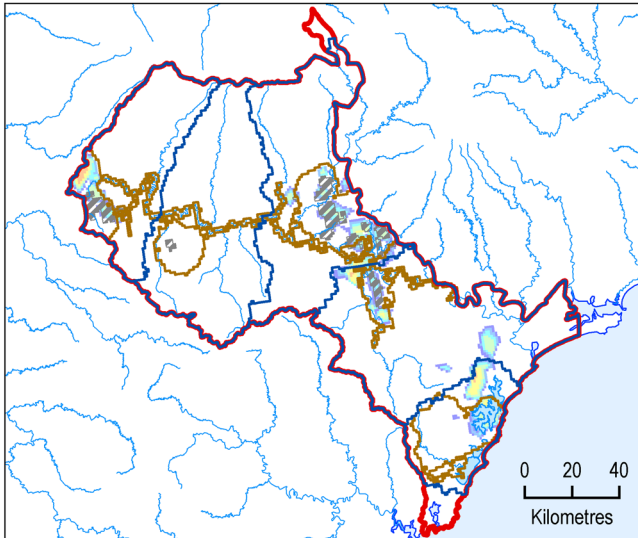


**Figure 8 Additional drawdown (m) in the regional watertable (95%, 50% and 5% chance of exceeding given values of drawdown)**

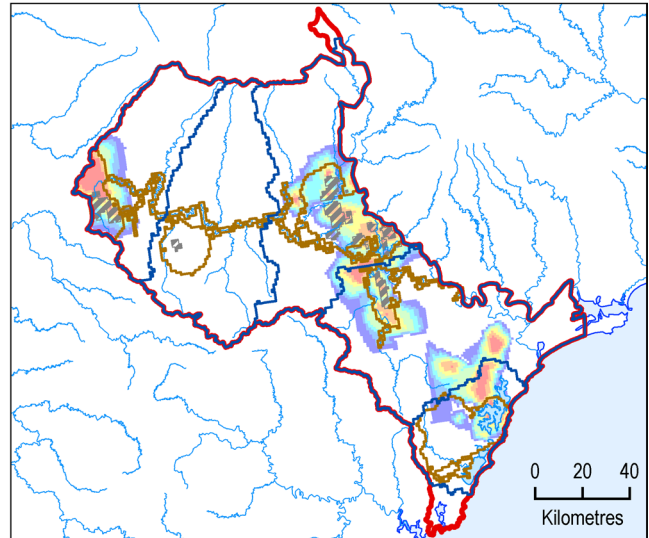
Additional drawdown is the maximum difference in drawdown between the coal resource development pathway and baseline, due to additional coal resource development (Box 3). Results are shown as percent chance of exceeding drawdown thresholds (Box 5). These appear in the impact and risk analysis (Herron et al., 2018c) as percentiles.

Data: Bioregional Assessment Programme (Dataset 1, Dataset 7, Dataset 8)

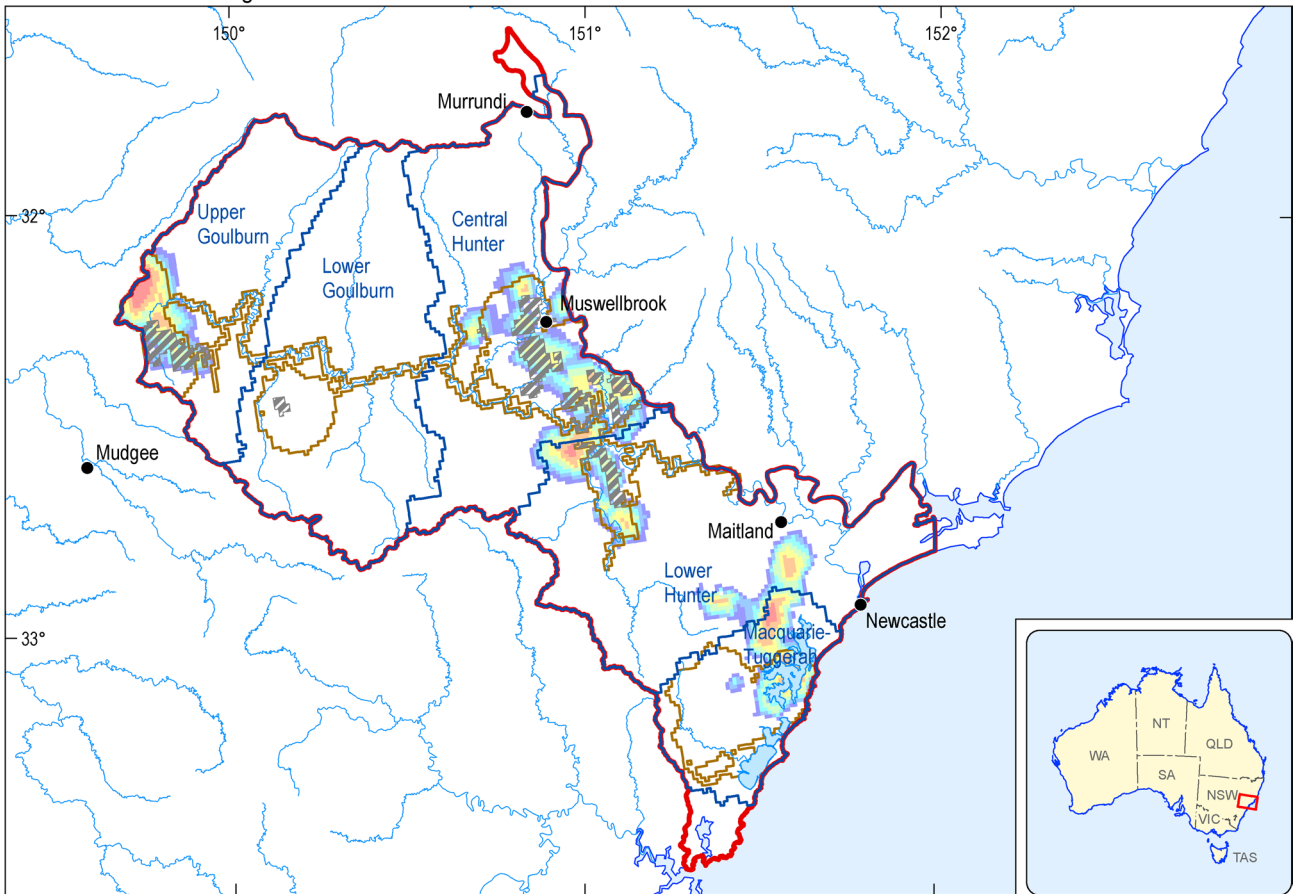
95% chance of exceeding



5% chance of exceeding



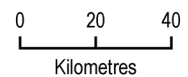
50% chance of exceeding



Baseline drawdown (m)



HUN-500-006



**Figure 9 Baseline drawdown (m) in the regional watertable (95%, 50% and 5% chance of exceeding given values of drawdown)**

Baseline drawdown is the maximum difference in drawdown under the baseline relative to no coal resource development (Box 3). Results are shown as percent chance of exceeding drawdown thresholds (Box 5). These appear in the impact and risk analysis (Herron et al., 2018c) as percentiles.

Data: Bioregional Assessment Programme (Dataset 1, Dataset 7, Dataset 8)





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